

Message

From: Alexander, Paul (HHS/ASPA) (VOL) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 5/19/2020 3:13:54 PM
To: Brad Traverse [REDACTED]; Caputo, Michael (HHS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]; Pratt, Michael (OS/ASPA) [REDACTED]; Gordon Hensley [REDACTED]; Oakley, Caitlin B. (OS/ASPA) [REDACTED]
Subject: RE: NYTimes.com: Where Chronic Health Conditions and Coronavirus Could Collide

But we can explain it this way:

The risk in US or even globally of persons 60 years and less is less than seasonal influenza, the data shows this.

COVID kills much more children than influenza.

The risk to persons in US 0-19 years is exceedingly vanishingly low. Approaches 0.

People with traditional chronic life style conditions etc. are being sidelined to COVID where hospitals delaying elective surgeries and seeing these patients. These are the patients that would die due to lack of help in hospital, and they are scared to approach the medical system so they die as wont go when they get chest pains. We are seeing how it is affecting Vaccine preventable diseases (VPD) in children as the ordering of vaccines from CDC is down near 70% across all VPDs.

The deaths will accumulate in these chronic illnesses more by people not seeking care, as fear infection at hospital or doctor's office. And these conditions needs NOT telemedicine, they need that intimate visit with your doctor.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC
Tel: [REDACTED] (Office)
Tel: [REDACTED] (Cellular)
Email: [REDACTED]

-----Original Message-----

From: Brad Traverse [REDACTED]
Sent: Tuesday, May 19, 2020 9:10 AM
To: Alexander, Paul (HHS/ASPA) (VOL) [REDACTED]; Caputo, Michael (HHS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]; Pratt, Michael (OS/ASPA) [REDACTED]; Gordon Hensley [REDACTED]; Oakley, Caitlin B. (OS/ASPA) [REDACTED]
Subject: NYTimes.com: Where Chronic Health Conditions and Coronavirus Could Collide

I can see the media routing this as a reason not to open up America in red states. They open by stating the risk could last for years.

From The New York Times:

Where Chronic Health Conditions and Coronavirus Could Collide

The outbreak may spread to new areas with high rates of diabetes, obesity and other illnesses that can worsen coronavirus symptoms. See where your county falls among those with the highest health risk factors

<https://www.nytimes.com/interactive/2020/05/18/us/coronavirus-underlying-conditions.html?smid=em-share>

Sent from my iPhone

*Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request,
Do Not Disclose Without Permission from Dep't of Health and Human Services*

Message

From: Alexander, Paul (HHS/ASPA) (VOL) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 5/30/2020 7:29:10 PM
To: Pauley, Scott (CDC/OD/OADC) [REDACTED]
CC: Murphy, Ryan (OS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA) [REDACTED]; Caputo, Michael (HHS/ASPA) [REDACTED]; OS - Interviews [REDACTED]; Robinson, Michael J (HHS/ASPA) [REDACTED]; [REDACTED] CDC OADC ASPA Clearance [REDACTED]; Hensley, Gordon (HHS/ASPA) [REDACTED]
Subject: Re: CDC Proactive Statement: COVID-NET racial/ethnic hospitalization data

Thanks Ryan you are so right and I agree.

Here is the issue: if the communication is left with just the statement that minority groups are at higher risk then on its face this is very accurate, however, in this election cycle that is the kind of statement coming from CDC that the media and Democrat antagonists will use against the president. They are already doing it and accusing him directly of the deaths in the African American community from COVID. This is very wrong for those deaths have more to do with socioeconomic status and each time we talk about these deaths we need to tell the nation why these deaths happened. This was due to decades of democrat neglect, case in point New York.

To me, at this point any mention, given they are trying to tear this president down, is to contextualize the issue and explain to the nation constantly why this has happened and how the president's economic policies for minorities is the only way out. COVID has exploited socio-economic status.

I am very grateful at the opportunity to be part of this team and this critical discussion.

Paul

Sent from my iPhone

On May 30, 2020, at 12:34 PM, Pauley, Scott (CDC/OD/OADC) [REDACTED] wrote:

Not yet.

Thank you,
Scott Pauley
Press Officer, News Media Branch
Division of Public Affairs
Office of the Associate Director for Communications
Centers for Disease Control and Prevention (CDC)
1600 Clifton Road, NE, MS E-69, Atlanta, GA 30329
Office: [REDACTED]
Mobile: [REDACTED]
[REDACTED]

From: Murphy, Ryan (OS/ASPA) [REDACTED]
Sent: Saturday, May 30, 2020 12:22:57 PM
To: Alexander, Paul (HHS/ASPA) (VOL) [REDACTED]; Pauley, Scott (CDC/OD/OADC) [REDACTED]; Hall, Bill (HHS/ASPA) [REDACTED]; Caputo, Michael (HHS/ASPA) [REDACTED]; [REDACTED]

Cc: OS - Interviews [redacted] Robinson, Michael J (HHS/ASPA)
[redacted] CDC OADC ASPA Clearance [redacted]
Subject: RE: CDC Proactive Statement: COVID-NET racial/ethnic hospitalization data

Hey Paul – I shot you a note on the other chain as well. I think we keep with the already cleared CDC statement for now, but very much appreciate your insight and input on this.

Scott – have you all received any inquiries on this yet?

Thanks,
Ryan

From: Alexander, Paul (HHS/ASPA) (VOL) [redacted]
Sent: Saturday, May 30, 2020 1:02 AM
To: Murphy, Ryan (OS/ASPA) [redacted] Pauley, Scott (CDC/OD/OADC)
[redacted] Hall, Bill (HHS/ASPA) [redacted] Caputo, Michael (HHS/ASPA)
Cc: OS - Interviews [redacted] Robinson, Michael J (HHS/ASPA)
[redacted] CDC OADC ASPA Clearance [redacted]
Subject: RE: CDC Proactive Statement: COVID-NET racial/ethnic hospitalization data

Hi, good night, please see suggested edits, if it may help.

I tried to explain a bit more on the potential reasons for the inequality in burden and a suggestion for a study.

For your consideration.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC
Tel: [redacted] (Office)
Tel: [redacted] (Cellular)
Email: [redacted]

From: Murphy, Ryan (OS/ASPA) [redacted]
Sent: Friday, May 29, 2020 6:30 PM
To: Pauley, Scott (CDC/OD/OADC) [redacted] Hall, Bill (HHS/ASPA) [redacted]
Cc: OS - Interviews [redacted] Robinson, Michael J (HHS/ASPA)
[redacted] CDC OADC ASPA Clearance [redacted]
Subject: RE: CDC Proactive Statement: COVID-NET racial/ethnic hospitalization data

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ct Subcommittee on Coronavirus C
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Pursuant to Oversight Request,
and Human Services

Scott is this different from the one you sent as final a short while ago? Language looks the same.

From: Pauley, Scott (CDC/OD/OADC) [REDACTED]
Sent: Friday, May 29, 2020 6:28 PM
To: Hall, Bill (HHS/ASPA) [REDACTED]
Cc: OS - Interviews [REDACTED]; Robinson, Michael J (HHS/ASPA) [REDACTED]
[REDACTED] CDC OADC ASPA Clearance [REDACTED] Murphy,
Ryan (OS/ASPA) [REDACTED]
Subject: RE: CDC Proactive Statement: COVID-NET racial/ethnic hospitalization data

Bill, here is the final clean version with our accepted and addressed edits from OGC as well.

Thank you.

From: Hall, Bill (HHS/ASPA) [REDACTED]
Sent: Friday, May 29, 2020 5:38 PM
To: Pauley, Scott (CDC/OD/OADC) [REDACTED]
Cc: OS - Interviews [REDACTED]; Robinson, Michael J (HHS/ASPA) [REDACTED]
[REDACTED] CDC OADC ASPA Clearance [REDACTED] Murphy,
Ryan (OS/ASPA) [REDACTED]
Subject: Re: CDC Proactive Statement: COVID-NET racial/ethnic hospitalization data

Scott...Please hold on sending this out.

Sent from my iPhone

On May 29, 2020, at 2:13 PM, Pauley, Scott (CDC/OD/OADC) [REDACTED] wrote:

Agency/Office: CDC

Subject: *CDC publishing age-adjusted rates of COVID-19-associated hospitalizations by race and ethnicity for first time*

Material: Draft proactive statement

Deadline for comments: ASAP

Planned release date: Thursday, May 28

Driving event: Data release today

Proposed Statement:

Today, CDC is publishing age-adjusted rates of COVID-19-associated hospitalizations by race and ethnicity for the first time. This information is critical to identifying and addressing the disproportionate impact of COVID-19 on the health of racial and ethnic minority populations. This is also the first time CDC is releasing hospitalization data for American Indian/Alaska Native and Asian/Pacific Islander populations. The results reveal some racial and ethnic minority populations are hospitalized at higher rates compared to the non-Hispanic White population. Specifically, Non-Hispanic Black and non-Hispanic

American Indian/Alaska Native populations have hospitalization rates approximately 4.5 times that of the non-Hispanic White population, while the Hispanic/Latino population has a rate approximately 3.5 times that of the Non-Hispanic White population.

COVID-NET, CDC's population-based surveillance system that collects data on laboratory-confirmed COVID-19-associated hospitalizations, now has data on race and ethnicity from more than 80 percent of the reported cases, enabling calculation of these age-adjusted hospitalization rates. That means these hospitalization rates are adjusted to account for differences in age distributions within race and ethnicity groups, whereas previously released COVID-NET data on race and ethnicity was limited to proportions. This information will be provided every Friday going forward in COVID-View, CDC's weekly COVID-19 surveillance report.

This data supports evidence that COVID-19 places a higher burden on some racial and ethnic minority populations. A priority aspect of CDC's pandemic response includes improving the quality and availability of these data to help drive health equity. This new information, as well as other ongoing research, will improve understanding of the causes of COVID-19 disparities by race and ethnicity and will inform strategies to improve health and health outcomes in communities of color.

Thank you,
Scott Pauley
Press Officer, News Media Branch
Division of Public Affairs
Office of the Associate Director for Communications

Centers for Disease Control and Prevention (CDC)
1600 Clifton Road, NE, MS E-69, Atlanta, GA 30329
Office: [REDACTED]
Mobile: [REDACTED]

Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request,
Do Not Disclose Without Permission from Dep't of Health and Human Services

Message

From: Alexander, Paul (HHS/ASPA) (VOL) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 6/12/2020 2:21:33 AM
To: McKeogh, Katherine (OS/ASPA) [REDACTED]; ASPA-Deputies [REDACTED]
Subject: RE: CNN: Fauci voices support for World Health Organization after Trump terminates US relationship

Personally I just do not understand someone like Dr. Fauci. This is separate from his accomplished years of research etc. I share my view with respect for this scientist though dismay.

You have WHO blocking for China Jan 14th saying no person-to-person spread; you have China then indicating Jan 21/22 that there is spread in Wuhan; we have indications that China asked WHO to not inform of person-to-person spread Jan 21/22; you have China closing travel from Wuhan to the rest of China yet flights to the rest of the world at this time; and you have WHO not declaring a pandemic till March 14; for all this time and as such, the rest of the world, including Europe, leaving its borders open and its people getting infected and dying largely out of lack of preparedness; had the WHO done its job and not aligned itself with China first, and had China been honest and forthcoming, all nations would have closed itself off and mitigated the breach of its borders. Allowing your infected people to travel out of China to the rest of the world, basically let infected persons as proxy weapons...infected weapons that hit the world...we were blindsided. I am surprised at how much we limited this and really, the President did take a bold step Jan 31st to shut off China. He went against Fauci, WHO, and China, and all the leftist and media and whomever who were calling him racist etc. I am not commenting on the lethality, just that had the President not done that, the US hospitals or ICUs would not been able to cope. He did buy us time.

these are very troubling facts and Dr. Fauci must know that WHO and China can be argued to have the blood of Americans on their hands, as well as global persons who died. Many died due to their actions. This is a not a 'misstep' as Dr. Fauci alluded to....over one million people globally have died due to this reckless and catastrophic set of actions by China and negligence and complicity by WHO. Over 100,000 Americans have died, 10,000 Canadians etc. In some way, these entities must be sanctioned on behalf of Americans and/or other global nations, financially/legally. This is my opinion.

Look at the ravage of COVID on the African-American and minority communities? Dr. Fauci will need to explain to the minority community his views.

Thus why would Dr. Fauci continually stand apart from the President as if we cannot understand the facts.

<https://www.who.int/china/news/detail/22-01-2020-field-visit-wuhan-china-jan-2020>

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC
[REDACTED]
[REDACTED]
[REDACTED]

From: McKeogh, Katherine (OS/ASPA) [REDACTED]
Sent: Thursday, June 11, 2020 7:21 PM
To: ASPA-Deputies [REDACTED]; Alexander, Paul (HHS/ASPA) (VOL) [REDACTED]
Subject: CNN: Fauci voices support for World Health Organization after Trump terminates US relationship

Fauci voices support for World Health Organization after Trump terminates US relationship

CNN // Paul LeBlanc

(CNN)Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, expressed support for the World Health Organization on Thursday in a significant break from President Donald Trump, who announced last month that the US would terminate its relationship with the world's leading public health body.

"I've been dealing with the WHO now for four decades. I have a number of colleagues I have interacted with and continue to. I have a very good relationship with the director general of WHO," Fauci told CBC News. "The WHO is an imperfect organization. It certainly has made some missteps, but it has also done a lot of good. The world needs a WHO."

Trump's decision to end the US' relationship with the WHO amid a global pandemic drew quick criticism from both sides of the aisle. His move followed a years-long pattern of skepticism of world organizations, with the President claiming in nearly every circumstance that the US was being taken advantage of.

"Because they have failed to make the requested and greatly needed reforms, we will be today terminating our relationship with the World Health Organization and redirecting those funds to other worldwide and deserving, urgent global public health needs," Trump said last month.

But Fauci said Thursday, "I would hope that we would continue to benefit from what the WHO can do -- at the same time that they continue to improve themselves."

His comments echo the message from the director of the US Centers for Disease Control and Prevention, Dr. Robert Redfield, who said last week that his agency continues to collaborate closely with WHO, despite Trump's statements.

"I feel confident that the public health partnership that we have -- although it may be modified in some way at a political level -- I don't think it's going to be modified in terms of our public health efforts," Redfield said during a House Appropriations hearing on the Covid-19 response.

The WHO has been criticized for relying on official Chinese government figures relating to the coronavirus, numbers that many officials doubt are accurate. It also received criticism for a January 14 tweet noting that preliminary investigation by Chinese authorities had found no clear evidence of human-to-human transmission of the virus.

Critics have also questioned whether the WHO is independent enough, given China's rising wealth and power. They point to the WHO's effusive praise of China's response to the pandemic.

But health experts, US lawmakers and world leaders have expressed concern over defunding the organization amid a pandemic.

Patrice Harris, president of the American Medical Association, assailed Trump's decision last month as "senseless" with "significant, harmful repercussions."

"COVID-19 affects us all and does not respect borders; defeating it requires the entire world working together," Harris said in a statement. "In the strongest terms possible, the American Medical Association urges the President to reverse course and not abandon our country's leadership position in the global fight against COVID-19."

CNN's Maggie Fox, Jason Hoffman and Maegan Vazquez contributed to this report.

Katie McKeogh

Press Secretary

Office of the Assistant Secretary for Public Affairs (ASPA)

U.S. Department of Health and Human Services



Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request,
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Message

From: Alexander, Paul (HHS/ASPA) (VOL) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 6/15/2020 1:21:14 PM
To: Caputo, Michael (HHS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA) [REDACTED]; Weber, Mark (HHS/ASPA) [REDACTED]; Traverse, Brad (HHS/ASPA) [REDACTED]; Pratt, Michael (OS/ASPA) [REDACTED]; McKeogh, Katherine (OS/ASPA) [REDACTED]; Oakley, Caitlin B. (OS/ASPA) [REDACTED]
Subject: Thoughts on the re-opening for the Secretary/White House

It is critical how we message and here are my thoughts, evolving as of today, and I write as a scientist, but as a member of the public living the shut down and understanding the data and the politics that is hampering everyone. This is the tragedy in this pandemic, as it quickly became a political matter and not the public health matter it should have been.

- 1) Its all about common sense.
- 2) The population will go to polls in Nov and make decisions and vote based on 'common-sense'...this will come down to a 'common-sense' election. Like how people are making decisions now as to how they will operate in COVID. What do I mean? People are informed, the population is very sophisticated, and are now armed with more information on COVID in terms of the highest risk group e.g. risk to elderly with medical conditions, and hospitals now being more prepared and equipped to deal with any surge in hospitalizations; focus is now and must be on re-opening the country and economy; controlling the transmission of COVID (i.e. increased testing, monitoring rate of positive infections,...), working to re-build the economy (critical), having societies based on law and order and therefore ensuring peoples' safety will be key measurable that people will be evaluating and making decisions based on these factors and seeing how all these aspects are being dealt with by the Administration. In all of this, people want law and order.
- 3) 'Capital' picks up and leaves where safety declines, always.
- 4) The focus has to be on re-opening the economy as the deaths and despair and loss due to that will outstrip by far anything COVID can visit.
- 5) Messaging for COVID by the administration and leaders has to now involve a paradigm shift where responsibility should shift from the state to the individual. Yes, the state to the person. Give people that. Ask that of them. And do not be afraid to ask this of the people. It is their responsibility. Now that we have more data about the virus and hospitals are equipped to deal with hospitalizations as a result of implemented COVID measures (e.g. equipment, isolation practices for COVID positive patients,...), individuals have to be pro-active in protecting themselves, their elderly parents, family members and friends from possible infection with the virus (e.g. restrict exposure to visitors, proper sanitary practices like hand washing prior to engaging with the elderly, nursing homes to continue precautionary measures).
- 6) Message has to be "look, we are testing to ensure we know how the virus is behaving and to find the sick or higher risk so we can isolate, treat, trace etc. But most, the vast overwhelming majority will be fine...just fine...will not even know they got COVID like how you don't know the hundreds and thousands of pathogen and antigens you develop antibodies for daily...the key metrics is not a positive test, but if these translate to hospitalization or severe illness or death...if testing and positives go up but hospitalizations and ICU use and oxygen and deaths go down, then we are doing great.
- 7) Nursing homes are a problem (and here is where I think gov'n has to be involved to regulate) because of transmission of COVID from staff to residents. Designation of staff to live on site at the nursing home has to be considered for optimal infection control at nursing homes. For staff that cannot abide by this, alternatives such as hiring of temporary staff, nursing students, and part time employees should be considered. Pay them to stay double time but you cannot have staff leaving each day, then bringing it back the next. An outbreak cannot end in an institution if there is constant new infection daily. CMS must consider this. No doubt, New York's governor's decisions was devastating and NY is a unique case and that decision to send elderly infected persons back to the homes spread infection to uninfected people who were frail and vulnerable.

- 8) This is my view and I am not wanting to be political here. I want the best public health response, regardless of party. But it is clear this is 99.9% politics and 0.1% public health and it is very concerning. 20,000 people died in the US due to H1NI and 60 million got infected but where was the lockdown? Where were the daily briefings? Where was Dr. Fauci and his doom and gloom? I followed that in detail. Where was this for SARS 1 in 2003 which had a 10-11% mortality, much more lethal than this COVID...the one thing that these prior pathogen outbreaks did not have is a President Trump as President.
- 9) The President has to be commended for his strong decisions along the way especially closing off China Jan 31st. Especially going against the tacit and full complicity by WHO with China. The world has paid dearly due to their negligence and complicity. But the President bought the US the time by shutting them out and that was a brave bold move. If a democrat was President, the same result would be on deck for the past administration left the government devoid of any stockpiles. Any capacity. I am amazed at how fast this ramped up. There will always be lessons to learn and we live in the greatest nation, the best peoples, and our focus has to be on fighting the virus and not the politics.
- 10) If any of these public health folk, just one, would stand there and state that this President, this gov'n, this Secretary, has done a good job and it is getting better. And we will be alright. But not one has yet said it the way I just wrote it. The nation needs leaders in this to show them confidence, don't just spout facts, it gets lost. Tell me bread and butter info I need to hear, tell me that it is getting better and give us positive statements.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

[REDACTED]
[REDACTED]

Email: [REDACTED]

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From: Alexander, Paul (HHS/ASPA) [REDACTED]
Sent: Saturday, June 20, 2020 11:16 PM
To: Caputo, Michael (HHS/ASPA) [REDACTED]; Haynes, Benjamin (CDC/OD/OADC) [REDACTED]
Cc: Traverse, Brad (HHS/ASPA) [REDACTED]; OS - Interviews [REDACTED]; Robinson, Michael J (HHS/ASPA) [REDACTED] Hall, Bill (HHS/ASPA) [REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: RE: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel.

Ah ha, same thing I thought...now I realize I was not going bonkers when I read it for it frightened me and I almost jumped off the building (ha ha). That's why I toned it down and explained that kids, young folk, healthy folk have no symptoms and are fine...

So I was explaining in my submission you may discard if you felt I explained too much but I was trying to flesh out the original piece that was too strong and dismal...but reading Michael now, he is right, such a piece needs to not frighten, but inform and constantly showcase the good work and hope etc. We are far better off than 4 mths ago thanks to the good work at CDC, NIH, FDA etc and its leaders. So showcase this. In any story you put out. Else media will have a field day.

Thank you for considering.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

Email: [REDACTED]

From: Caputo, Michael (HHS/ASPA) [REDACTED]
Sent: Saturday, June 20, 2020 8:32 PM
To: Haynes, Benjamin (CDC/OD/OADC) [REDACTED]
Cc: Traverse, Brad (HHS/ASPA) [REDACTED]; OS - Interviews [REDACTED]; Robinson, Michael J (HHS/ASPA) [REDACTED] Hall, Bill (HHS/ASPA) [REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: Re: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel.

Is Remdezivir a treatment? Is dexamethasone? Is convalescent plasma?

Is this press release supposed to frighten readers?

Sent from my iPhone

On Jun 20, 2020, at 6:45 PM, Haynes, Benjamin (CDC/OD/OADC) [REDACTED] wrote:

Got it

Benjamin Haynes
Deputy Chief
News Media Branch
[REDACTED]

From: Traverse, Brad (HHS/ASPA) [REDACTED]
Sent: Saturday, June 20, 2020 6:39:21 PM
To: Haynes, Benjamin (CDC/OD/OADC) [REDACTED]; OS - Interviews [REDACTED]
Cc: Robinson, Michael J (HHS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA) [REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: RE: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel.

Thanks, Benjamin, I just sent my suggested edits.

Brad Traverse
Senior Advisor to the Assistant Secretary
Office of the Assistant Secretary of Public Affairs (ASPA)
U.S. Department of Health & Human Services (HHS)
[REDACTED] (cell)
[REDACTED] (e-mail)

From: Haynes, Benjamin (CDC/OD/OADC) [REDACTED]
Sent: Saturday, June 20, 2020 6:37 PM
To: Traverse, Brad (HHS/ASPA) [REDACTED]; OS - Interviews [REDACTED]
Cc: Robinson, Michael J (HHS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA) [REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: Re: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel.

It has not be cleared yet, so comments welcome

Benjamin Haynes
Deputy Chief

News Media Branch
[REDACTED]

From: Traverse, Brad (HHS/ASPA) [REDACTED]
Sent: Saturday, June 20, 2020 6:15:31 PM
To: Haynes, Benjamin (CDC/OD/OADC) [REDACTED]; OS - Interviews [REDACTED]
Cc: Robinson, Michael J (HHS/ASPA) [REDACTED] Hall, Bill (HHS/ASPA) [REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: RE: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel.

Has this already gone out or are edits an option?

Brad Traverse
Senior Advisor to the Assistant Secretary
Office of the Assistant Secretary of Public Affairs (ASPA)
U.S. Department of Health & Human Services (HHS)
[REDACTED] (cell)
[REDACTED] (e-mail)

From: Haynes, Benjamin (CDC/OD/OADC) [REDACTED]
Sent: Friday, June 19, 2020 6:02 PM
To: OS - Interviews [REDACTED]
Cc: Robinson, Michael J (HHS/ASPA) [REDACTED] Hall, Bill (HHS/ASPA) [REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel.

Please see below. I believe you are aware that this was coming you,.

Reactive Statement – CLIA Announcement to Suspend Operations

CDC supports the decision of CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel. The lethal pandemic continues to spread rapidly around the world with no treatment or vaccine. The COVID pandemic continues to ravish the globe with more than 8.5 million confirmed cases worldwide and over 450,000 confirmed deaths worldwide in last 6 months. On June 17, 174,000 COVID-19 cases were reported worldwide, the largest single tally since the epidemic began. It took 3 months to reach the first million cases of COVID-19, but in the past week alone 1 million cases have been reported worldwide.

The pandemic is deadly and insidious with a wide range of symptoms among those infected from none or mild symptoms to respiratory failure and multiorgan failure. While all age-groups have been affected with severe disease, those over 65 and those with underlying health conditions are at much greater risk of hospitalization and death. The guest profile on typical cruise ship voyages matches those at greatest risk for hospitalization and death. The population density on cruise ships tends to be higher than most urban settings, and even when populations are reduced, we have still seen ongoing spread of COVID-19 illness. Sailings without guest passengers and with a markedly reduced crew size since April has proven how difficult it is to control and eradicate COVID infections and outbreaks in the maritime

environment. For all these reasons CDC concurs with the CLIA announced decision to extend suspension of guest services.

Since our original No Sail Order in mid-March preventing embarkation of any new passengers, CDC has worked tirelessly day and night to control COVID-19 on cruise ships that remained at sea while protecting against further introduction and spread of COVID-19 into U.S. communities. CDC expended to date an estimated 35,000 personnel hours on cruise ship COVID-19 response since mid-March—in addition to the thousands of hours by other HHS components, the rest of the United States government states, and local authorities.

CDC has continued to have regular conversations and emails with the cruise line industry and cruise ship operators, often on a daily basis, as we worked to review response plans submitted by the cruise lines to CDC under the No Sail Order. CDC will continue to evaluate and update our recommendations as the situation evolves. For more information on CDC's work with cruise ships during the COVID-19 pandemic, visit:

<https://www.cdc.gov/coronavirus/2019-ncov/travelers/cruise-ship/what-cdc-is-doing.html>

Caitlin Shockey, JD

Associate Director for Communication
Division of Global Migration and Quarantine
Centers for Disease Control and Prevention

██████████
██████████

Department of Health and Human Services
Majority on Coronavirus

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From: Alexander, Paul (HHS/ASPA) [REDACTED]
Sent: Saturday, June 20, 2020 11:10 PM
To: Haynes, Benjamin (CDC/OD/OADC) [REDACTED]; Traverse, Brad (HHS/ASP)
[REDACTED]; OS - Interviews [REDACTED]
Cc: Robinson, Michael J (HHS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA)
[REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: RE: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger
cruise ship travel.

See my suggested edits...I added to Brad's and the issue is the intro was so strong to me, and so I took
it down and quickly put in a good word for the fine work being done by CDC. I described a bit more the
issue but if you think not needed, you can discard. The statement that all age-groups are impacted is not
entirely correct as written and the data is firm in this. I tried to flesh it out to keep the direction you
were going. Actually, what is really incredible to me at times is that yearly influenza (seasonal) kills 200
young children per year (roughly) and this illness does not. Yet it is felt this illness does.

Anyway, nice piece.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public
Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

[REDACTED]
[REDACTED]

Email: [REDACTED]

From: Haynes, Benjamin (CDC/OD/OADC) [REDACTED]
Sent: Saturday, June 20, 2020 6:37 PM
To: Traverse, Brad (HHS/ASPA) [REDACTED]; OS - Interviews [REDACTED]
Cc: Robinson, Michael J (HHS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA)
[REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: Re: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger
cruise ship travel.

It has not be cleared yet, so comments welcome

Benjamin Haynes

Deputy Chief
News Media Branch

From: Traverse, Brad (HHS/ASPA) [REDACTED]
Sent: Saturday, June 20, 2020 6:15:31 PM
To: Haynes, Benjamin (CDC/OD/OADC) [REDACTED]; OS - Interviews [REDACTED]
Cc: Robinson, Michael J (HHS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA) [REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: RE: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel.

Has this already gone out or are edits an option?

Brad Traverse
Senior Advisor to the Assistant Secretary
Office of the Assistant Secretary of Public Affairs (ASPA)
U.S. Department of Health & Human Services (HHS)
[REDACTED] (cell)
[REDACTED] (e-mail)

From: Haynes, Benjamin (CDC/OD/OADC) [REDACTED]
Sent: Friday, June 19, 2020 6:02 PM
To: OS - Interviews [REDACTED]
Cc: Robinson, Michael J (HHS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA) [REDACTED]; CDC OADC ASPA Clearance [REDACTED]
Subject: Reactive Statement -CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel.

Please see below. I believe you are aware that this was coming you,.

Reactive Statement – CLIA Announcement to Suspend Operations

CDC supports the decision of CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel. The lethal pandemic continues to spread rapidly around the world with no treatment or vaccine. The COVID pandemic continues to ravish the globe with more than 8.5 million confirmed cases worldwide and over 450,000 confirmed deaths worldwide in last 6 months. On June 17, 174,000 COVID-19 cases were reported worldwide, the largest single tally since the epidemic began. It took 3 months to reach the first million cases of COVID-19, but in the past week alone 1 million cases have been reported worldwide.

The pandemic is deadly and insidious with a wide range of symptoms among those infected from none or mild symptoms to respiratory failure and multiorgan failure. While all age-groups have been affected with severe disease, those over 65 and those with underlying health conditions are at much greater risk of hospitalization and death. The guest profile on typical cruise ship voyages matches those at greatest risk for hospitalization and death. The population density on cruise ships tends to be higher than most urban settings, and even when populations are reduced, we have still seen ongoing spread of COVID-19 illness. Sailings without guest passengers and with a markedly reduced crew size since April has proven

how difficult it is to control and eradicate COVID infections and outbreaks in the maritime environment. For all these reasons CDC concurs with the CLIA announced decision to extend suspension of guest services.

Since our original No Sail Order in mid-March preventing embarkation of any new passengers, CDC has worked tirelessly day and night to control COVID-19 on cruise ships that remained at sea while protecting against further introduction and spread of COVID-19 into U.S. communities. CDC expended to date an estimated 35,000 personnel hours on cruise ship COVID-19 response since mid-March—in addition to the thousands of hours by other HHS components, the rest of the United States government, states, and local authorities.

CDC has continued to have regular conversations and emails with the cruise line industry and cruise ship operators, often on a daily basis, as we worked to review response plans submitted by the cruise lines to CDC under the No Sail Order. CDC will continue to evaluate and update our recommendations as the situation evolves. For more information on CDC's work with cruise ships during the COVID-19 pandemic, visit:

<https://www.cdc.gov/coronavirus/2019-ncov/travelers/cruise-ship/what-cdc-is-doing.html>

Caitlin Shockey, JD

Associate Director for Communication
Division of Global Migration and Quarantine
Centers for Disease Control and Prevention



Reactive Statement – CLIA Announcement to Suspend Operations

CDC supports the decision of CLIA to voluntarily extend the suspension of operations for passenger cruise ship travel. The COVID-19 global pandemic continues to spread around the world with no as yet proven treatment or vaccine. CDC continues to work with other federal agencies such as the NIH and FDA to mitigate risk of transmission and to secure an effective therapeutic (s) and/or vaccine (s) for the American people.

The pandemic can be both lethal and fatal, with a wide range of symptoms among those infected. Infected persons may experience no symptoms, as well as some may experience from none or mild symptoms, and then others may progress to moderate to severe illness which could translate into respiratory failure and multi-organ failure and/or death. While all age groups have been affected, those Persons with no symptoms or mild symptoms (children, younger persons, healthy/well individuals) often recover with little if any, non-hospital homecare support. Persons over 65 and those with underlying health conditions (e.g. diabetes, hypertension, cardiovascular illness, malignancy, liver disease, kidney disease, and obesity etc.) are at much greater risk of more severe illness with possible hospitalization and at times, a need for respiratory support (some form of oxygen) in an ICU setting. and death.

The guest profile on typical cruise ship voyages matches those at greatest risk for severe illness which may require hospitalization and need for respiratory support and death. Moreover, ~~t~~The population density on cruise ships tends to be higher than most urban settings, and even when populations are reduced, we still observe have still seen ongoing spread of COVID-19 illness due to the congregated setting and greater chance of closer physical contact. Sailings without guest passengers and with a markedly reduced crew size since April has proven how difficult it is to control and eradicate COVID infections and outbreaks in the maritime environment. For all these reasons CDC concurs with the GMA announced decision to extend suspension of guest services.

Since our original No Sail Order in mid-March preventing embarkation of any new passengers, CDC has worked tirelessly day and night to control COVID-19 on cruise ships that remained at sea while protecting against further introduction and spread of COVID-19 into U.S. communities. CDC expended to date an estimated 35,000 personnel hours on cruise ship COVID-19 response since mid-March—in addition to the thousands of hours by other HHS components, the rest of the United States government, states, and local authorities.

CDC has continued (and continues) to have regular conversations and emails with the cruise line industry and cruise ship operators, often on a daily basis, as we worked to review response plans submitted by the cruise lines to CDC under the No Sail Order. CDC will continue to evaluate and update our recommendations as the situation evolves. For more information on CDC's work with cruise ships during the COVID-19 pandemic, visit:

<https://www.cdc.gov/coronavirus/2019-ncov/travelers/cruise-ship/what-cdc-is-doing.html>

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Dep't of Health and Human Services

Message

From: Alexander, Paul (HHS/ASPA) (VOL) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 6/24/2020 1:31:10 PM
To: Caputo, Michael (HHS/ASPA) [REDACTED]; Traverse, Brad (HHS/ASPA) [REDACTED]
Weber, Mark (HHS/ASPA) [REDACTED]
Subject: On the testing and cases issue....

Key message has to be:

There is a rise in cases due to testing and also simultaneously due to the relaxing of restrictions, less social distancing. We always knew as you relax and open up, cases will rise...but what type of cases? If we test more we will find more...but are the new cases problematic??? That's the key....we also know that viruses mutate constantly and spontaneously but the mutation is often to a much milder versions...so are we seeing increased cases as social distancing increases but milder illness not needing as much emergency care as before??? Is the virus weakening in lethality?

The aspect to watch is not the rise in testing, but

- 1) Positivity rate (positives)...is it flat? Is it under 10% (threshold)? Is it trending down as testing goes up or is it increasing? How is the trend in the rate over time? Increasing positivity rate means spread...that's a concern.
- 2) Hospitalizations....but critical is ICU use...not just an emergency visit....not those who go to emergency but actually who get admitted. Is it for COVID??? Or you are positive for COVID but admitted for something else? COVID was not an issue
- 3) Are cases asymptomatic, mild illness needing no support other than home care (stay home, get rest), or more serious illness needing hospitalization and respiratory support???
- 4) ICU bed use...is it on the rise?
- 5) Oxygen support/respiratory support...is it on the rise?
- 6) Ventilator use...is it on the rise?
- 7) Deaths...is it on the rise?

We need also to tout the good stories as we know of elderly with serious conditions who get it and survive...this is key to tell...

We also need to tell that seasonal influenza kills 200 infants and children per year in US...200...much more lethal than COVID as thus far, we have 3 deaths that are in question as if due to COVID in kids in US....this tells us the pathogen is not that lethal as if it were, would impact children more. This is how we have to think of it.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
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Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC
[REDACTED]
[REDACTED]

Email: [REDACTED]

Message

From: Alexander, Paul (HHS/ASPA) (VOL) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 6/30/2020 3:44:07 PM
To: Wagner, John (FDA/OC) [REDACTED]
Subject: FW: WARNING on G4 virus coming out of China...pandemic potential....

Fyi and now will include you in all my communications...

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC
[REDACTED]
[REDACTED]

Email: [REDACTED]

From: Alexander, Paul (HHS/ASPA) (VOL)
Sent: Tuesday, June 30, 2020 11:29 AM
To: McKeogh, Katherine (OS/ASPA) [REDACTED]; ASPA-Deputies [REDACTED] Caputo, Michael (HHS/ASPA) [REDACTED] Traverse, Brad (HHS/ASPA) [REDACTED] Hensley, Gordon (HHS/ASPA) [REDACTED]; Hubbard, Madeleine (OS/ASPA) [REDACTED] Weber, Mark (HHS/ASPA) [REDACTED] Oakley, Caitlin B. (OS/ASPA) [REDACTED]
Subject: WARNING on G4 virus coming out of China...pandemic potential....

Hi, I write again as a warning to consider, to take to the WH (at some level), and wanted to follow up again giving the potential nightmare if we have to deal with another influenza pandemic on top of COVID etc. Quick background:

- 1) We know that swine/pigs are the vessel, the mixing equipment that re-assorts several viruses they are infected with; pigs in China are the key source of our global pandemic influenza viruses; a fact due to the massive pig/swine populations and that these animals are infected with several viruses at once and at a genetic level, the viral genome are remixed or re-assorted etc.
- 2) We follow these pig/swine populations in China in various surveillance systems and use it as a flag as an early warning for a potential influenza pandemic.

- 3) We are seeing a re-assorted virus G4 in China in pigs (an H1N1 strain) that seems similar to the 2009 pandemic.
- 4) Seems this virus has affinity to human receptors like the 2009 pandemic influenza virus and can multiply in human respiratory epithelial cells.
- 5) We are seeing it shows infectivity of transmission in ferrets.
- 6) Preliminary research also shows that existing human population immunity confers no protection against G4.
- 7) Evidence also exists that swine workers in China exposed, had about 10% had serological evidence of prior exposure to G4 H1N1 virus...and in the younger age group 18-35 years even greater seropositive rates of 20%.
- 8) This suggests that G4 H1N1 has gotten the capacity to spread from swine to humans.
- 9) This G4 H1N1 virus should be looked at and kept on our radar at CDC etc.
- 10) No doubt acute surveillance is needed to better characterize this emerging pathogen and understand its infectivity to humans; the key is to assess if it can infect and how efficiently.

Dr. Paul E. Alexander, PhD
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For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

Email: [REDACTED]

From: Alexander, Paul (HHS/ASPA) (VOL)
Sent: Monday, June 29, 2020 6:31 PM
To: McKeogh, Katherine (OS/ASPA) [REDACTED] ASPA-Deputies [REDACTED]
Subject: RE: BBC: Flu virus with 'pandemic potential' found in China

This can be potentially serious if this virus behaves like the H1N1 of 2009...that killed 20 K Americans, 200 K worldwide, and infected 20% of the population. That happened in the Obama era.

It is dealt with via vaccine...

Flu viruses come from the chicken/fowl and swine population in China. That's why we go there each year to find the predominant strain of flu (1 strain) and make (mass produce) the next years flu vaccine in the west guessing that strain in China the year before will be the predominant strain in the US etc. The virus mutates thousands of times by then. It is statistically impossible to ever get that right. I am just being open.

The reality is that the coronaviruses have found a way to invade human respiratory epithelial and cardiovascular endothelial type cells efficiently via the ACE 2 receptor, same one used by the ACE-inhibitor drugs as part of the renin-angiotensin-aldosterone (RAS) system (blood pressure control). SARS-CoV-1, MERS, and now SARS-CoV-2 are the 3 lethal forms of coronavirus and I fear there are many more to come and more lethal too and we really are in a race to find a way to stop them from infecting the human cell. It is a fact of life and was always so, and we as humans have waged a decent battle with pathogen across the last 100 years but they have been pressing and will continue to. It has always been a matter of survival of one living entity over another...pathogen is a living entity that wants to live and reproduce just like us. An influenza virus with pandemic potential with virulence on top of the COVID can be catastrophic.

Human beings must be educated now really that it has always been a battle against those microbes we cant see; always, and we must change the way we lived the last decades....they were always there...we are bumping up into them now and they are trying to live on by infecting us. We also create more problems when we try to evade them and not kill them...they respond to the pressure we put on them via selection forward and they get more efficient at spread...we drive resistance, making it much more complex to treat, highly expensive, and difficult to manage. This is why the concept of herd immunity is so critical for the virus is boxed in if we get to that number of about 60% population immunity via our own infection or vaccine (or combination). Hiding from the virus allows it to lay in wait...its so complex what we face now and if for the life of god the left and media and detractors could stop their insanity and allow public health to respond and deal with these issues...and stop the politics...this can be disastrous if this political game continues and many people will die. The media and left have help COVID proliferate and the left scientists who work against the administration...they wont help and this saddens and horrifies me for I understand whats on tap now...this can be catastrophic. They want to destroy the nation and people's lives just to make the President look bad...saving lives is not their aim...winning at all costs....this is the real tragedy we face. The Secretary today was so on point how he explained the window is closing...spoken so clearly....it is sobering.

Let us read this more and if this is a credible story, and there are preliminary reports, then the leadership at CDC and NIH and FDA need to be out front and brief the President urgently and we at ASPA need to get messaging.

Katie, this is a very important article and thanks for sharing. Brilliant!

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

Email: [REDACTED]

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From: McKeogh, Katherine (OS/ASPA) [REDACTED]
Sent: Monday, June 29, 2020 5:55 PM
To: ASPA-Deputies [REDACTED]; Alexander, Paul (HHS/ASPA) (VOL) [REDACTED]
Subject: BBC: Flu virus with 'pandemic potential' found in China

Flu virus with 'pandemic potential' found in China
BBC // Michelle Roberts

It emerged recently and is carried by pigs, but can infect humans, they say.

The researchers are concerned that it could mutate further so that it can spread easily from person to person, and trigger a global outbreak.

They say it has "all the hallmarks" of being highly adapted to infect humans - and needs close monitoring.

As it's new, people could have little or no immunity to the virus.

Pandemic threat

A bad new strain of influenza is among the top disease threats that experts are watching for, even as the world attempts to bring to an end the current coronavirus pandemic.

The last pandemic flu the world encountered - the swine flu outbreak of 2009 that began in Mexico - was less deadly than initially feared, largely because many older people had some immunity to it, probably because of its similarity to other flu viruses that had circulated years before.

That virus, called A/H1N1pdm09, is now covered by the annual flu vaccine to make sure people are protected.

The new flu strain that has been identified in China is similar to 2009 swine flu, but with some new changes.

So far, it hasn't posed a big threat, but Prof Kin-Chow Chang and colleagues who have been studying it, say it is one to keep an eye on.

The virus, which the researchers call G4 EA H1N1, can grow and multiply in the cells that line the human airways.

They found evidence of recent infection starting in people who worked in abattoirs and the swine industry in China.

Current flu vaccines do not appear to protect against it, although they could be adapted to do so if needed.

Prof Kin-Chow Chang, who works at Nottingham University in the UK, told the BBC: "Right now we are distracted with coronavirus and rightly so. But we must not lose sight of potentially dangerous new viruses."

While this new virus is not an immediate problem, he says: "We should not ignore it".

The scientists write in the journal Proceedings of the National Academy of Sciences that measures to control the virus in pigs and closely monitor working populations should be swiftly implemented.

Prof James Wood, Head of the Department of Veterinary Medicine at the University of Cambridge, said the work "comes as a salutary reminder" that we are constantly at risk of new emergence of pathogens, and that farmed animals, with which humans have greater contact than with wildlife, may act as the source for important pandemic viruses.

Katie McKeogh

Press Secretary

Office of the Assistant Secretary for Public Affairs (ASPA)

U.S. Department of Health and Human Services



Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request,
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Message

From: Alexander, Paul (HHS/ASPA) (VOL) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 7/1/2020 2:41:10 AM
To: Caputo, Michael (HHS/ASPA) [REDACTED]
CC: Redfield, Robert R. (CDC/OD) [REDACTED]; Granito, Catherine (HHS/IOS) [REDACTED]; Witkofsky, Nina (CDC/OD/OCS) [REDACTED]
Subject: RE: Dr. Anne Schuchat

Good night, some stats that are eye-opening and helps put things in perspective even better:

- 1) Many of the people in hospitals and even ICUs now in some states that opened are those who were waiting and were sick (non-COVID) and got sick, really sick and now very ill in ICU non-COVID...they did not go to hospital for electives and other conditions for they were fearful and now gravely ill...NOT COVID
- 2) School-aged children risk of death is 8 x lower with COVID than with lab-confirmed influenza and to me this means we should never ever open back a school in America and keep our kids home away from seasonal influenza.
- 3) Texas governor tonight said only 20% of cases in ICU across Texas is COVID related (1500/7700 cases)...80% are not COVID related

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Washington, DC
[REDACTED]
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Email: [REDACTED]

From: Caputo, Michael (HHS/ASPA) [REDACTED]
Sent: Tuesday, June 30, 2020 6:31 PM
To: Alexander, Paul (HHS/ASPA) (VOL) [REDACTED]
Cc: Redfield, Robert R. (CDC/OD) [REDACTED]; Granito, Catherine (HHS/IOS) [REDACTED]; Witkofsky, Nina (CDC/OD/OCS) [REDACTED]
Subject: Re: Dr. Anne Schuchat

Thank you Dr Alexander. Adding Dr Redfield, Nina and Catherine Granito of White House Liaison.

Sent from my iPhone

On Jun 30, 2020, at 6:16 PM, Alexander, Paul (HHS/ASPA) (VOL) [REDACTED] wrote:

Hi Michael, here is my reply or sense of this (in red):

1) in her statement: "We're not in the situation of New Zealand or Singapore or Korea, where a new case is rapidly identified and all the contacts are traced and people are isolated who are sick and people who are exposed are quarantined and they can keep things under control."

She is basically committing hari kari, saying they at CDC have failed for this is their job. She failed. But they are saying this to damage the President. So by saying bad stuff on CDC, the buck stops at the administration. Very disingenuous. To detect, isolate, treat, and trace. Where the CDC may have made a mistake is not tracing 2nd level contacts (contacts of contacts). Also, these nations are smaller e.g. New Zealand, and being an island, ports of entry are much more limited. These nations engaged in severe lockdowns and the verdict is still out as to how things will shape out. When locked down fully as these nations did, the virus lays in wait and does not go away and so to say that they are out of the woods, no one knows how this virus is operating. It is premature to say that.

2) She said: "We have way too much virus across the country for that right now, so it's very discouraging,"

We expected to see upticks in cases due to the increased testing, and the relaxation of constraints e.g. lockdowns etc. However, the good news is that these upticks are majority in persons 35 years old or so; this suggests that we did a good job in protecting the elderly; the younger are not at risk of severe illness or death like the older persons and as such, the key message to them now must be as we open-up, is to behave responsibly, remember the elderly in your homes are at risk so reduce chance of transmission, and work with old aged homes/nursing homes to reduce risk to elderly. The data suggests that about 5% show serological signs of prior infection which means 95% of the population have not yet been infected. The message has to be practice proper hygiene, social distancing, hand washing, wearing of masks when distancing cannot be done, especially around the elderly and do not go to the hospital emergency etc. as a young asymptomatic (or mild) person who tests positive. It's the clogging up of ERs and beds that can cause the elderly and persons who need ICU and oxygen and support, to not get access readily.

3) She said: "This is really the beginning and what we hope is that we can take it seriously and slow the transmission." Her comments are in contrast to those of senior members of the Trump administration — notably Vice President Mike Pence, who said on Friday "we have made truly remarkable progress."

So she is implying that prior to now, the administration, including her, have not taken it seriously. This is false. What else does she have in her arsenal that has not been done, to offer? Again, she is being duplicitous. The hospitals are geared up, the medical community alerted, PPEs are available, there are ICU beds for surge capacity, we are working in a vaccine (s) and we have several therapeutics in the pipeline and some already showing effectiveness e.g. convalescent plasma, remdesivir, corticosteroid, and tocilizumab (IL-6).

Importantly, having the virus spread among the young and healthy is one of the methods to drive herd immunity. This was not the intended strategy but all must be on deck now and it is contributing positively at some level. What is the issue is the politics by people like her in actually hitting her own self to hurt the many thousands of great women and men in public service working late at night to fix this. She is duplicitous.

4) She said: She said there was "a lot of wishful thinking around the country" that the pandemic would be over by the summer. "We are not even beginning to be over this," Schuchat said. "There are a lot of worrisome factors about the last week or so."

But the worrisome factors she refers to this week are the upticks in positive cases but she should know this is due to testing and due to relaxing of social distancing etc. and there has to be some due to spread. But the measurable should not be the number of tests or the number of positives thought we want to see that day over day to be less than 9-10%...the measurables in hot spots should be a) if there is any increase in hospitalizations b) if the cases are showing harsh symptoms c) if the cases result in admission and not just an ER room visit and immediate discharge (same-day) d) if there is an uptick in ICU bed use due to COVID...not due to now slated elective surgeries that were put off before and not due to people who were locked down and did have serious cardiac illness, or lung illness, or kidney illness, or malignancies and now rushing to deal with these but have gotten very ill over 5-6 months of lock down so they are putting pressure on the hospital systems too and we need to look at the hospital data registries to see what is the reason for the visit e) how many result in actual death due to COVID...not 'with COVID' but 'because' of COVID...she should know this...again, the young as we open up are to be reminded to take measures to limit spread to the frail and elderly...

5) She said: "I was always asked about what was my worst nightmare, what kept me up at night. Usually, my answer was influenza pandemic and the characteristics of the COVID-19 are quite similar to what I was worried about," she said.

What is fascinating about this remark is that we are doing all that is done for the influenza pandemic and more for the COVID pandemic...all the tools and expertise used for influenza pandemic she refers to, all of it, is brought to bear on COVID...so she is trying to be misleading here.

She is commenting on both the influenza pandemic and COVID 19...the difference is for as an example SARS-1 in 2003, it died out before we made a vaccine or got a therapeutic; and for H1N1 in 2009, which she was involved with, 60 million Americans got infected, remind her this, of which 20,000 died...under her work.

6) She said: To help prevent the spread, Schuchat said "we need everyone to get on board" with wearing masks. The more people who wear them can not only protect themselves, but others in their community.

Her aim is to embarrass the President here but it is his decision. Moreover, he is tested more than anyone in the entire world several times a day rapid testing as we know. And all around him must be tested too and so he does not need a mask to be honest...so by taking these and other precautions, he limits his risk as a person. She has the option to do same for herself. Furthermore, she at CDC etc. are not trying to tweak the information that the mask not only protects others from you, but you form them...they always said it conferred no protection so once again, CDC is giving upside down messages. They went form no mask, to mask, to no mask, now to mask. No wonder people are fed up. Dr. Fauci even told people to go to the mall and movies in the height of this...I recall.

7) She said: For most people, the new coronavirus causes mild or moderate symptoms, such as fever and cough that clear up in two to three weeks. For some, especially older adults and people with existing health problems -- including children -- it can cause more severe illness and death.

It also causes no symptoms as it is so mild...you don't even know you have it. Many people never knew they had it. Not one indication. It is very false her statement that it causes death in children. The verdict is very out on that for the cases of MIS-C or PMIS as some call it (inflammatory syndrome) all typically recover. The data shows this. Moreover, where some deaths have been recorded (minimal), we remain unsure as to the link to COVID since some who died with the inflammatory illness were negative for COVID while some are positive. The syndrome seems to cause an illness akin to Kawasaki illness seen in Pacific Asian kids < 5 years old...so I refer here to the inflammatory illness....but based on CDC's own data, the risk of death in children 0-19 years of age is basically 0 (zero)...PERIOD...she has lied here.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

[Redacted]

Email: [Redacted]

Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request, from Dep't of Health and Human Services

From: Caputo, Michael (HHS/ASPA) [Redacted]
Sent: Tuesday, June 30, 2020 5:32 PM
To: Alexander, Paul (HHS/ASPA) (VOL) [Redacted]
Subject: Fwd: Dr. Anne Schuchat

Sent from my iPhone

Begin forwarded message:

From: "Granito, Catherine (HHS/IOS)" [Redacted]
Date: June 30, 2020 at 4:10:32 PM EDT
To: "Caputo, Michael (HHS/ASPA)" [Redacted]
Subject: Dr. Anne Schuchat

FYI

<https://www.axios.com/cdc-coronavirus-spreading-too-fast-in-us-9820f635-7a9a-433a-8a88-267c5e5bbeb5.html>

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<https://protect2.fireeye.com/url?k=88c473d1-d4906aad-88c442ee-0cc47adc5fa2-f2628ca35e552d13&u=https://www.10tv.com/article/news/health/coronavirus/cdc-expert-wants-us-far-from-containing-coronavirus/507-31507a6d-3205-40ed-b5a3-28a3212af5a8>

Catherine R. Granito
Office of the White House Liaison

DELIBERATIVE – CONFIDENTIAL

*Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request,
Do Not Disclose Without Permission from Dep't of Health and Human Services*

Message

From: Alexander, Paul (HHS/ASPA) (VOL) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 7/3/2020 5:27:35 PM
To: Caputo, Michael (HHS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]; Traverse, Brad (HHS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA) [REDACTED]; Oakley, Caitlin B. (OS/ASPA) [REDACTED]; McKeogh, Katherine (OS/ASPA) [REDACTED]
Subject: FLAG: ADDITIONAL: Keep on your radar potential mutations of COVID spike proteins as we develop a vaccine....

NOW Fauci just came on at 1.17 pm on news headlines that COVID is mutated...and expect a dramatic increase in spread....so now its news....yikes....

He just wont stop!!!!!!!!!!!!!! He cant keep quiet....and he is not on the same page of the govn....does he think he is the President???

This new mutated strain is strain D614G...I had written about this to you all about a month ago...as turned up on the radar....

Anyway, now Fauci is embarking on the news to scare the world again...we must lock down for 10 years....if he had his way.

We always know that virus has one aim, to live, breath, reproduce...any pathogen...it's a living entity....it needs to replicate so as it sends its offspring (progeny) into the future...so we know to expect this..

But the studies so far are in vitro (means in the lab dish)...it may be more infective but less pathogenic...so we need to see...how it behaves in humans...we don't know yet...all is dish so far.

So the bottom line is if it is more infectiouness now, the issue is who cares? If it is causing more cases in young, my word is who cares...as long as we make sensible decisions, and protect the elderly and nursing homes, we must go on with life...who cares if we test more and get more positive tests...are these test results serious???. Are the results showing serious illness? More hospital???. Or are folk sent home at emergency with no hospital admission?? Do they go to ICU if admitted???. Why???. Is it due to elective surgeries???. What???. Do they die due ot COVID???. If none of the latter happens, then who cares...once we safeguard the elderly, the frail, immune compromised, and nursing homes...who cares...that's my opinion. We have more to fear from seasonal influenza A and B that kills 200 children a year...CDC data (para)...we have more to fear from ebola that is on the US soil that the past President brought here for the first time...that is no joke...we must keep that locked down for ebola came to the US due to President Obama...that has a near full mortality rate.

We have never locked down a well young population...ever...like what we did here...

We know newborns, children, young people, young adults, and ebeb older folk with no conditions...are at very low risk of severe illness or death...it is a clear fact....

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC
[REDACTED]
[REDACTED]

Email: [REDACTED]

From: Alexander, Paul (HHS/ASPA) (VOL)

Sent: Friday, July 3, 2020 10:28 AM

To: Caputo, Michael (HHS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED];
Traverse, Brad (HHS/ASPA) [REDACTED]; Hall, Bill (HHS/ASPA) [REDACTED]; Oakley, Caitlin B.
(OS/ASPA) [REDACTED]; McKeogh, Katherine (OS/ASPA) [REDACTED]

Subject: Keep on your radar potential mutations of COVID spike proteins as we develop a vaccine....

Viruses mutate as time passes and quickly, near daily...if you take virus and place in a lab petri dish and give it a few hours, it will spontaneously mutate...and often it mutates into milder less severe strains which is good but can into a lethal strain...but it is important if the mutation impacts the vaccine (s) being produced...and so our teams in WARP etc. (and developers/sponsors) MUST keep this on their radar....we are seeing mutations on the glycoprotein that comprises the spike on the viral envelope...those molecular spikes off the virus (the antigen)...this is the key appendage that docks with the ACE 2 receptor on the epithelial surfaces of the respiratory cells and endothelial cells of vascular vessels....the vaccine seeks to provoke antibodies to this antigen and if it is changed (mutated) enroute to vaccine production, then vaccine is worthless...and it happens...this situation is so important to GET THIS RIGHT....

It can be catastrophic if the vaccine does not work for the predominant strain and will be a real failure to the administration...and so the developers cant get this wrong and make a mistake here...

Please drill them in each WARP meeting...ask them about what are they hearing about mutations? How are you dealing with this??? Is the vaccine still based on the predominant strain??? Key issues.

Virus DNA is RNA, very unstable in its copying mechanism...and can mutate spontaneously...

I know you know all of this but writing it as a warning...and for us to let the experts know we know of the key issue and how are they handling it...

We don't want folk developing (accident or deliberate) a non-functional vaccine (s)...

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
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Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

[REDACTED]
[REDACTED]

Email: [REDACTED]

Oversight Request,
Services

House Select Subcommittee on Coronavirus Crisis Pursuing
No Disclose Without Permission from Dept of Health and H

PI

Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request,
Do Not Disclose Without Permission from Dep't of Health and Human Services

Message

From: Alexander, Paul (HHS/ASPA) (VOL) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 7/4/2020 5:44:12 PM
To: Paul Elias Alexander [REDACTED]
Subject: FW: Fauci says now today on news that vaccine will not get us to HERD alone...that means intuitively that means we need infected people

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

Email: [REDACTED]

From: Alexander, Paul (HHS/ASPA) (VOL)
Sent: Saturday, July 4, 2020 1:44 PM
To: Caputo, Michael (HHS/ASPA) [REDACTED]; Traverse, Brad (HHS/ASPA) [REDACTED];
Oakley, Caitlin B. (OS/ASPA) [REDACTED]; McKeogh, Katherine (OS/ASPA)
[REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]; Weber, Mark (HHS/ASPA)
[REDACTED]; Hensley, Gordon (HHS/ASPA) [REDACTED]
Subject: RE: Fauci says now today on news that vaccine will not get us to HERD alone...that means intuitively that means we need infected people

Fauci who is for lockdowns and the like, is now actually clarifying things by his statement today on FOX that we wont get to herd with a vaccine...he actually is helping the administration:

He is actually one of the architects of lockdown but is actually saying now indirectly, that vaccine cant do it so we will need the population to get infected and develop antibodies. The issue is 6 months in, only about 5 % of population show antibodies and this means it will take 7-9 years to get 60% herd going this way of lockdown, partial lockdown, open up, close back down etc.

My view, we open up fully as described below, protect the vulnerable, make sensible decisions, and allow the nation to develop antibodies. Infants, kids, teens, young people, young adults, middle aged with no conditions etc. have zero to

little risk....so we use them to develop herd...we want them infected....and recovered...with antibodies....hospitals are NOW geared, PPE in place, ICUs beds are on the ready, doctors and nurses alert, the syndrome is crystalized... etc. Only if the young who are getting infected with the increased testing and relaxed controls now.... if they show serious illness needing ICU and oxygen, and die, then we know this virus has mutated lethally and attacking the usual healthiest in a society and this is dangerous and I don't think so...god forbid this ever happens....data does not show this. Data shows I have heard now that only 3.5% of deaths now are in persons younger than 44 years...

You cant discount the devastation of lock downs as people lose independence, homes, jobs, hope...kill themselves, drink and use illicit drugs and die to substance use deaths...this is a fact...more will die due to the indirect effects of COVID...these deaths of despair...if the young healthy well among us can face the pathogen and develop herd, why cant we do this? Prior has not worked...you cant lock down and re-open and if spike, close down again...the virus will never go away...it will lurk...we got to face it once and for all...while pushing hard for vaccine and therapeutics...all at once...

And stop Fauci from talking...he is confusing people...he flip flops the message too much...and the result is now he is not credible...I talk to lots of people and read the IT world. Others are...he is not. His messaging is not consistent so you don't know what the best science is advocating.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
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US Department of Health and Human Services (HHS)
Washington, DC

Email: [REDACTED]

From: Alexander, Paul (HHS/ASPA) (VOL)
Sent: Saturday, July 4, 2020 11:50 AM
To: Caputo, Michael (HHS/ASPA) [REDACTED]; Traverse, Brad (HHS/ASPA) [REDACTED];
Oakley, Caitlin B. (OS/ASPA) [REDACTED]; McKeogh, Katherine (OS/ASPA) [REDACTED];
[REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]; Weber, Mark (HHS/ASPA) [REDACTED];
[REDACTED]; Hensley, Gordon (HHS/ASPA) [REDACTED]
Subject: Fauci says now today on news that vaccine will not get us to HERD alone...that means intuitively that means we need infected people

First, these scientists and experts are just confusing and frightening the people. And they cant get their statements straight.

If Fauci now says vaccine wont help fully, then this is why we need a portion, a large portion of the population to be infected, recover, and have antibodies.

To get antibodies one needs to be infected first as we know. To do this it cant be done with lockdowns etc. And each time you lock down and then open up, cases will spike.

I am trying to be as clear as possible:

We have never ever done this by locking down a healthy population...we protect the at-risk and let the rest of the well society go on...and face the pathogen. We will know in years the impact of this...but there is no evidence, that locking down a healthy, well society, a well group of people actually works. Never. The issue is we want to help protect the elderly and those who are at risk. This is a basic need. So we vaccinate the 'well' and healthy and younger and get them to be infected and develop antibodies and it is them whose immunity will protect the vulnerable among us. We do this all the time. When we have a vaccine, we get partial immunity that way combined with immunity from those who get infected and recover due to exposure, and then we get to that herd number threshold where the pathogen is boxed in and cant spread and goes away. Sometimes we do herd with full vaccination e.g. we did this mostly with small pox in 1970s/1980s.

Point being, if Fauci is saying today the vaccine wont get us to herd (I have no idea why he runs to the camera to tell the world each thought he has and often they are wrong sided and contradictory and I am sure the WH did not clear that as it now concerns people) then to get there we need persons in the population to augment this to get to the herd number of 60% (some now say only 40% of the population is needed to be immune for herd to be establish and is being debated)....this means exposure to the virus, exposing younger, well people to the virus and they developing immunity.

Thus the discussion has to be urgently, how do we protect the vulnerable, while letting the rest of the society free...the infants and children who are at low or no risk, the teens who are also at no risk, the young people at very small risk of severe illness, younger adults at low risk and folk with no conditions etc., allowing them to spread it and be infected...kind of like measles parties. I am trying to tell you that Fauci is undercutting (thwarting all efforts to deal with the virus in a positive way) the message or not working with us to package it so we can get the population informed and on board, he is frightening people...needlessly...and at the same time, we need to consider this closing back down or slowing down opening up...I do not agree...if there are upticks in cases due to testing and more mingling etc. loosening restrictions, the issue is are these going onto severe illness or just you feel ill for a few days and need chicken soup. If you are not gravely ill (or even have no symptoms and don't even feel anything), then we may need to consider letting our society loose, if what Fauci says is so.

There is no other way, we need to establish herd, and it only comes about allowing the non-high risk groups expose themselves to the virus. PERIOD. We continue the public health messages of proper hygiene, hand washing, protecting elderly at your homes and nursing care facilities, social distancing and so on...but we go on and let our societies open up fully NOW. If the hospitalizations occur in young and they get severe illness, then that's a different story and we will then have a huge mess on our hands and real nightmare. But that is not the case as of now.

Dr. Paul E. Alexander, PhD
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US Department of Health and Human Services (HHS)
Washington, DC

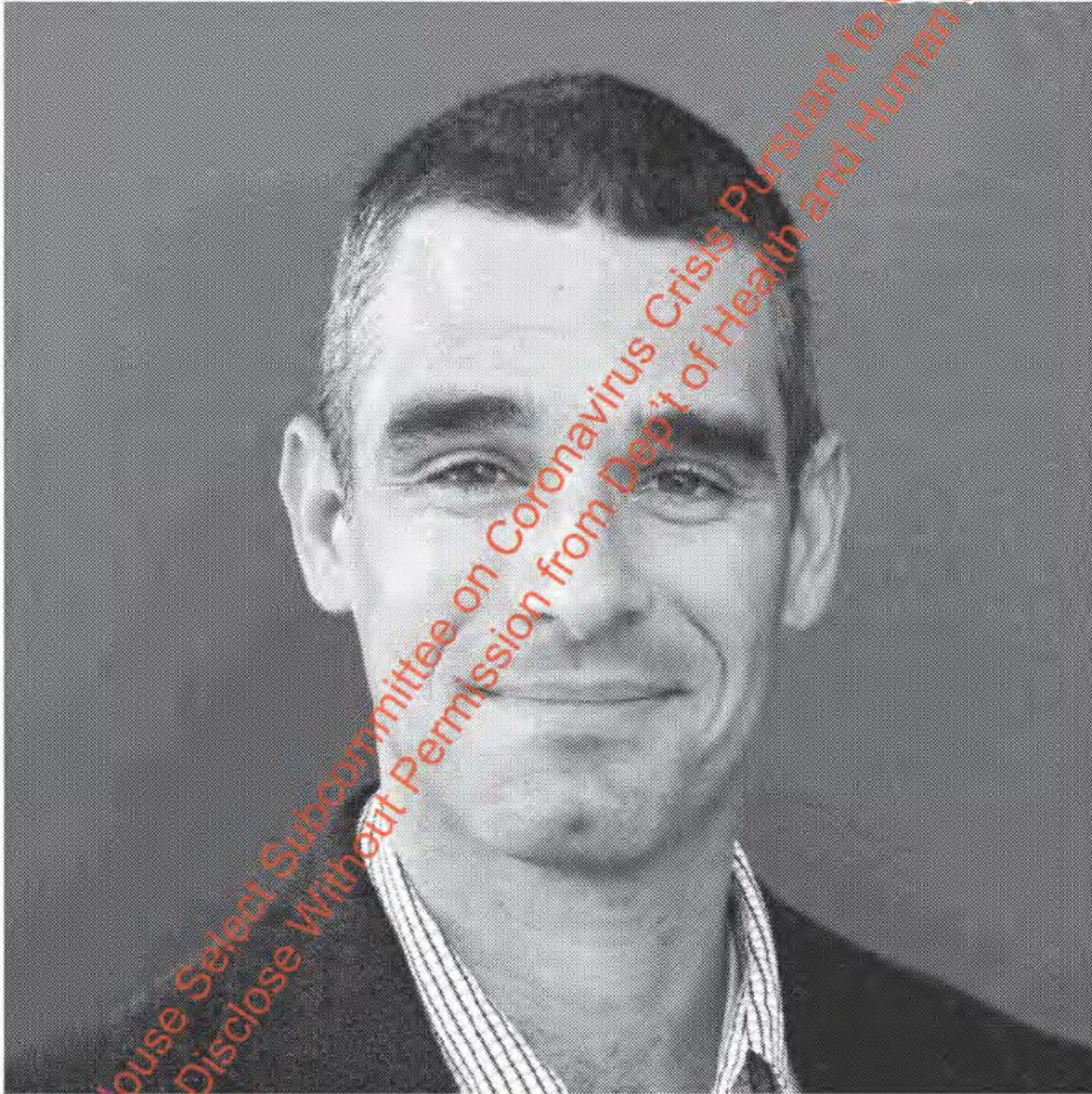
Email: [REDACTED]

Message

From: Alexander, Paul (HHS/ASPA) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 7/26/2020 1:29:11 AM
To: Paul Alexander
Subject: FW: NYC 25% antibodies...and aircraft Roosevelt Herd paper
Attachments: Herd paper.pdf

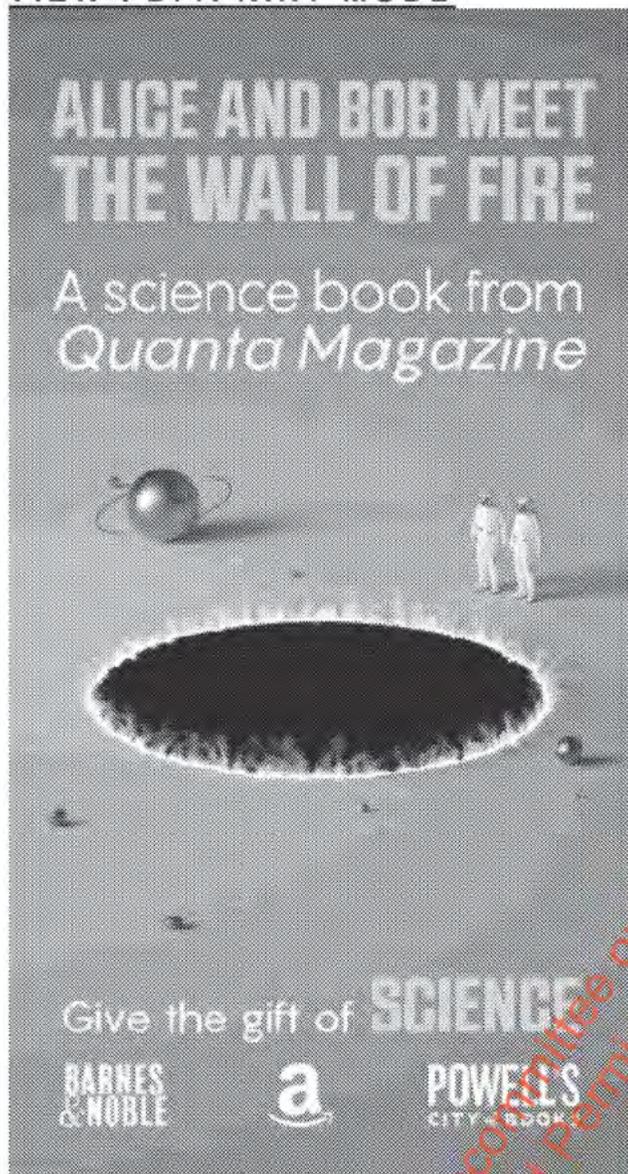
t's not easy to figure out when a disease will stop spreading through a population.

Olena Shmahalo/Quanta Magazine



Kevin Hartnett
Senior Writer

June 30, 2020



While much about the COVID-19 pandemic remains uncertain, we know how it will likely end: when the spread of the virus starts to slow (and eventually ceases altogether) because enough people have developed immunity to it. At that point, whether it's brought on by a vaccine or by people catching the disease, the population has developed "herd immunity."

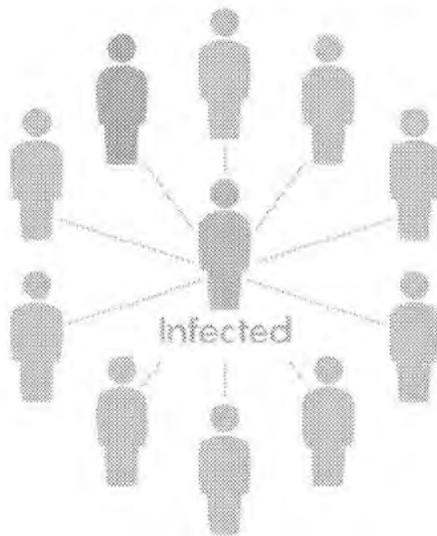
"Once the level of immunity passes a certain threshold, then the epidemic will start to die out because there aren't enough new people to infect," said Natalie Dean of the University of Florida.

While determining that threshold for COVID-19 is critical, a lot of nuance is involved in calculating exactly how much of the population needs to be immune for herd immunity to take effect and protect the people who aren't immune.

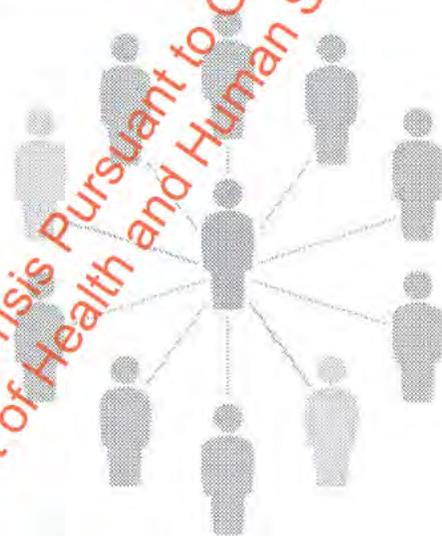
At first it seems simple enough. The only thing you need to know is how many people, on average, are infected by each infected person. This value is called R_0 (pronounced "R naught"). Once you have that, you can plug it into a simple formula for calculating the herd immunity threshold: $1 - 1/R_0$.

Let's say the R_0 for COVID-19 is 2.5, meaning each infected person infects, on average, two and a half other people (a common estimate). In that case, the herd immunity threshold for COVID-19 is 0.6, or 60%. That means the virus will spread at an accelerating rate until, on average across different places, 60% of the population becomes immune.

If an infected person encounters 10 other people,
a virus with $R_0 = 2$ would infect 2 of them, on average.



10 people encountered



2 people become infected

Lucy Reading-Ikkanda/Quanta Magazine

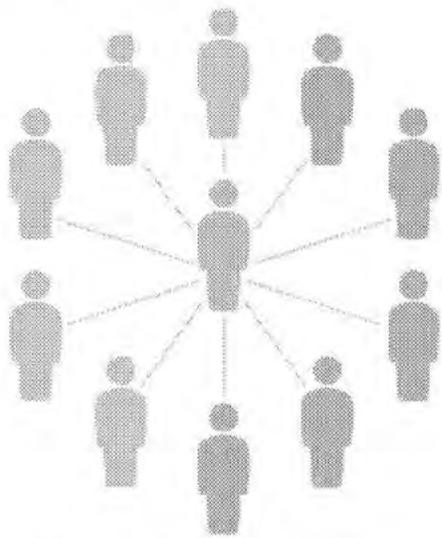
At that point, the virus will still spread but at a decelerating rate until it stops completely. Just as a car doesn't come to a stop the moment you take your foot off the gas, the virus won't vanish the moment herd immunity is reached.

"You could imagine that once 60% of the population is infected, the number of infections starts to drop. But it might be another 20% that gets infected while the disease is starting to die out," said Joel Miller of La Trobe University in Australia.

That 60% is also the threshold past which new introductions of the virus — say, an infected passenger disembarking from a cruise ship into a healthy port with herd immunity — will quickly burn out.

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If enough people are immune, the virus has fewer pathways to spread.



5 people are immune



Only one person becomes infected

Lucy Reading-Ikkanda/Quanta Magazine

“It doesn’t mean you won’t be able to start a fire at all, but that outbreak is going to die,” said Kate Langwig of Virginia Polytechnic Institute and State University.

However, things quickly get complicated. The herd immunity threshold depends on how many people each infected person actually infects — a number that can vary by location. The average infected person in an apartment building may infect many more people than the average infected person in a rural setting. So while an R_0 of 2.5 for COVID-19 may be a reasonable number for the whole world, it will almost certainly vary considerably on a more local level, averaging much higher in some places and lower in others. This means that the herd immunity threshold will also be higher than 60% in some places and lower in others.

“I think the range of R_0 consistent with data for COVID-19 is larger than most people give credit to,” said Marc Lipsitch of Harvard University, who has been advising health officials in Massachusetts and abroad. He cited data indicating it could be more than twice as high in some urban settings as the overall U.S. average.

And just as R_0 turns out to be a variable, and not a static number, the way people acquire their immunity also varies, with important implications for calculating that herd immunity threshold.

Usually, researchers only think about herd immunity in the context of vaccine campaigns, many of which assume that everyone is equally likely to contract and spread a disease. But in a naturally spreading infection, that’s not necessarily the case. Differences in social behaviors lead some people to have more exposure to a disease than others. Biological differences also play a role in how likely people are to get infected.



Gabriela Gomes of the University of Strathclyde in Scotland studies how biological and behavioral differences can affect the spread of a virus. She concludes some parts of the world may already be close to reaching herd immunity.

Courtesy of Gabriela Gomes

“We are born different, and then these differences accumulate as we live different experiences,” said Gabriela Gomes of the University of Strathclyde in Scotland. “This affects how able people are to fight a virus.”

Epidemiologists refer to these variations as the “heterogeneity of susceptibility,” meaning the differences that cause some people to be more or less likely to get infected.

But this is too much nuance for vaccination campaigns. “Vaccines are generally not distributed in a population with respect to how many contacts people have or how susceptible they are, because we don’t know that,” said Virginia Pitzer of the Yale School of Public Health. Instead, health officials take a maximalist approach and, in essence, vaccinate everyone.

However, in an ongoing pandemic with no guarantee that a vaccine will be available anytime soon, the heterogeneity of susceptibility has real implications for the disease’s herd immunity threshold.

In some cases it will make the threshold higher. This could be true in places like nursing homes, where the average person might be more susceptible to COVID-19 than the average person in the broader population.

But on a larger scale, heterogeneity typically lowers the herd immunity threshold. At first the virus infects people who are more susceptible and spreads quickly. But to keep spreading, the virus has to move on to people who are less susceptible. This makes it harder for the virus to spread, so the epidemic grows more slowly than you might have anticipated based on its initial rate of growth.

“The first person is going to be likely to infect the people who are most susceptible to begin with, leaving the people who are less susceptible toward the latter half of the epidemic, meaning the infection could be eliminated sooner than you’d expect,” Lipsitch said.

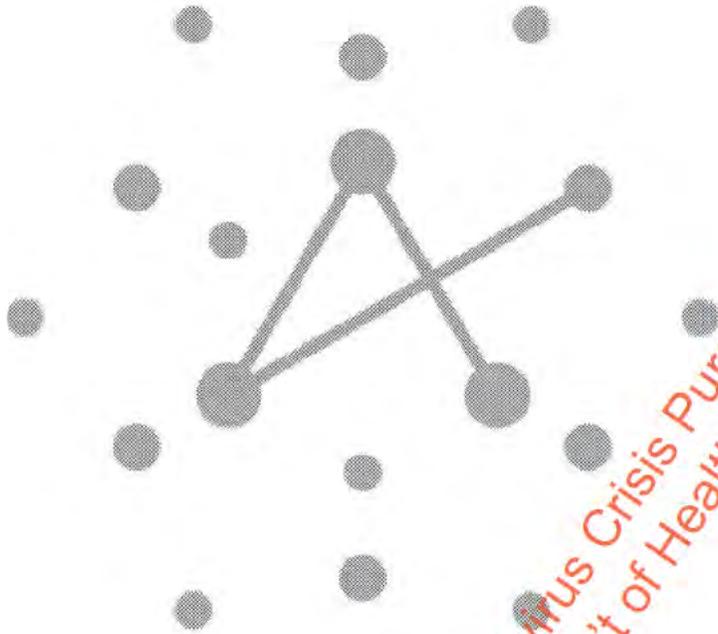
Estimating Heterogeneity

So how much lower is the herd immunity threshold when you’re talking about a virus spreading in the wild, like the current pandemic?

According to the standard models, about 60% of the U.S. population would need to be vaccinated against COVID-19 or recover from it to slow and ultimately stop the spread of the disease. But many experts I talked to suspect that the herd immunity threshold for naturally acquired immunity is lower than that.

“My guess would be it’s potentially between 40 and 50%,” Pitzer said.

Lipsitch agrees: "If I had to make a guess, I'd probably put it at about 50%."



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These are mostly just educated estimates, because it's so hard to quantify what makes one person more susceptible than another. Many of the characteristics you might think to assign someone — like how much social distancing they're doing — can change from week to week.

"The whole heterogeneity problem only works if the sources of heterogeneity are long-term properties of a person. If it's being in a bar, that's not in itself sustained enough to be a source of heterogeneity," Lipsitch said.

Heterogeneity may be hard to estimate, but it's also an important factor in determining what the herd immunity threshold really is. Langwig believes that the epidemiological community hasn't done enough to try and get it right.

"We've kind of been a little sloppy in thinking about herd immunity," she said. "This variability really matters, and we need to be careful to be more accurate about what the herd immunity threshold is."

Some recent papers have tried. In June the journal *Science* published a study that incorporated a modest degree of heterogeneity and estimated the herd immunity threshold for COVID-19 at 43% across broad populations. But one of the study's co-authors, Tom Britton of Stockholm University, thinks there are additional sources of heterogeneity their model doesn't account for.

"If anything, I'd think the difference is bigger, so that in fact the herd immunity level is probably a bit smaller than 43%," Britton said.

Another new study takes a different approach to estimating differences in susceptibility to COVID-19 and puts the herd immunity threshold even lower. The paper's 10 authors, who include Gomes and Langwig, estimate that the threshold for naturally acquired herd immunity to COVID-19 could be as low as 20% of the population. If that's the case, the hardest-hit places in the world may be nearing it.

"We're getting to the conclusion that the most affected regions like Madrid may be close to reaching herd immunity," said Gomes. An early version of the paper was posted in May, and the authors are currently working on an updated version, which they anticipate posting soon. This version will include herd immunity estimates for Spain, Portugal, Belgium and England.

Many experts, however, consider these new studies — not all of which have been peer-reviewed yet — to be unreliable.

We've kind of been a little sloppy in thinking about herd immunity.
Kate Langwig, Virginia Polytechnic Institute and State University

In a [Twitter thread](#) in May, Dean emphasized that there's too much uncertainty around basic aspects of the disease — from the different values of R_0 in different settings to the effects of relaxing social distancing — to place much confidence in exact herd immunity thresholds. The threshold could be one number as long as a lot of people are wearing masks and avoiding large gatherings, and another much higher number if and when people let their guard down.

Other epidemiologists are also skeptical of the low numbers. Jeffrey Shaman of Columbia University said that 20% herd immunity "is not consistent with other respiratory viruses. It's not consistent with the flu. So why would it behave differently for one respiratory virus versus another? I don't get that."

Miller added, "I think the herd immunity threshold [for naturally acquired immunity] is less than 60%, but I don't see clear evidence that any [place] is close to it."

Ultimately, the only way to truly escape the COVID-19 pandemic is to achieve large-scale herd immunity — everywhere, not just in a small number of places where infections have been highest. And that will likely only happen once a vaccine is in widespread use.

In the meantime, to prevent the spread of the virus and lower that R_0 value as much as possible, distancing, masks, testing and contact tracing are the order of the day everywhere, regardless of where you place the herd immunity threshold.

RELATED:

1. [What Other Coronaviruses Tell Us About SARS-CoV-2](#)
2. [How Math \(and Vaccines\) Keep You Safe From the Flu](#)
3. [The Animal Origins of Coronavirus and Flu](#)

“I can’t think of any decision I’d make differently right now if I knew herd immunity was somewhere else in the range I think it is, which is 40-60%,” said Lipsitch.

Shaman, too, thinks that uncertainty about the naturally acquired herd immunity threshold, combined with the consequences for getting it wrong, leaves only one path forward: Do our best to prevent new cases until we can introduce a vaccine to bring about herd immunity safely.

“The question is: Could New York City support another outbreak?” he said. “I don’t know, but let’s not play with that fire.”

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

Email: [REDACTED]

From: Alexander, Paul (HHS/ASPA)
Sent: Saturday, July 25, 2020 9:29 PM
To: Caputo, Michael (HHS/ASPA) [REDACTED]
Subject: RE: NYC 25% antibodies...and aircraft Roosevelt

You got me thinking and I went looking at literature and voila...I found it...top researchers have written that COVID herd can be as low they think as 20%...and NYC is there...and that's why I argue things have slowed...and maybe, just maybe, all we need is 20% antibodies....I could not stop thinking about what I wrote so had to find something...thank god to at least show I aint nuts my man....

See this...read and you will see...see what they wrote in red...thank god!!!!!!!!!!!!!!!!!!!!!! I did not want to look like a nut ball and if as they think and as I think this may be true, then as they say, several hard hit areas may have hit herd at 20% like NYC...that's my argument....why not consider it????

"If anything, I'd think the difference is bigger, so that in fact the herd immunity level is probably a bit smaller than 43%," Britton said.

Another new study takes a different approach to estimating differences in susceptibility to COVID-19 and puts the herd immunity threshold even lower. The paper's 10 authors, who include Gomes and Langwig, estimate that the threshold for naturally acquired herd immunity to COVID-19 could be as low as 20% of the population. If that's the case, the hardest-hit places in the world may be nearing it.

<https://www.quantamagazine.org/the-tricky-math-of-covid-19-herd-immunity-20200630/>

The herd immunity thresholds are given by a simple formula $(1 - 1/R_0)$ which, in the case of SARS-CoV-2, suggests that 60-70% of the population would need be immunized to halt spread considering estimates of R_0 between 2.5 and 3. R_0 is each person can potentially infect 2.5 people...so to speak. See how it is explained in this paper (in red) being published I found and it damn well backs up my claim...the issue is that the most susceptible people are infected first and this causes the less susceptible people to infection to be left and this reduces the R_0 or risk fo spread....if populations are sufficiently heterogeneous....as to susceptibility to infection...that's the key.

A crucial caveat in exporting these calculations to immunization by natural infection is that natural infection does not occur at random. Individuals who are more susceptible or more exposed are more prone to be infected and become immune, which lowers the threshold. In the model, the herd immunity threshold declines sharply when coefficients of variation increase from 0 to 2 and remains below 20% for more variable populations.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

Email: [REDACTED]

From: Caputo, Michael (HHS/ASPA) [REDACTED]
Sent: Saturday, July 25, 2020 1:40 PM
To: Alexander, Paul (HHS/ASPA) [REDACTED]
Subject: Re: NYC 25% antibodies...and aircraft Rosevelt

How can this be researched and proven true or false?

Michael R. Caputo

Assistant Secretary for Public Affairs
US Health and Human Services

Work Cell: [REDACTED]

***DELIBERATIVE, PRE-DECISIONAL MATERIALS
FOUO - FOR OFFICIAL USE ONLY***

On Jul 25, 2020, at 12:11 PM, Alexander, Paul (HHS/ASPA) [REDACTED] wrote:

Folks, my initial look now at the final case numbers for the aircraft carrier Rosevelt was about 5000 crew with approximately 1000 infected and 1 death.

This suggests an infection rate of 20%. Question remains why didn't everyone on carrier get infected. And here again this 20% infection rate rears it's head. Seems that this 20% rate is related to COVID. I am doing some more looking into this. The 20% infection rate is important and may suggest that 20% is needed for herd immunity to box this virus in, and not 70%.

We might be able to control this virus if we aggressively lock granny down, maybe even quarantine. Acutely regulate nursing homes for safety, message the younger people to behave responsibly, ensure all the PPE and hospitals are ramped up, and unleash the rest of the healthy society to get to our 20%. We might be able to defeat this even before vaccine is on deck. This 20% is nagging me and I wanted to share my thoughts and provide some evidence to spurn a debate.

Paul

Sent from my iPhone

On Jul 25, 2020, at 7:52 AM, Alexander, Paul (HHS/ASPA) [REDACTED] wrote:

The 20% number keeps emerging and it is interesting and there may be something there...

The Diamond Princess which was the first cruise ship that became news, eventually I remember had 3700 passengers (paying and crew) and 711 got infected...so 20%...why would a closed ship where no one got on or off, why did the virus not infect all of the ship? Seemed only 20% got infected...I think 14 died. But the issue is the virus stopped at 20%.

H1N1 in 2009/2010 under the prior administration infected 60-65 million Americans, 20-25% of population. 20 K died but again, now H1N1 is roughly stable, and influenza virus. Again 20% infected.

I find this 20% number keeps popping up and just as a disease detective, it is something to think about. Herd may be 20% for COVID...I don't know yet. but sharing...

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Washington, DC

Email: [REDACTED]

From: Alexander, Paul (HHS/ASPA)
Sent: Friday, July 24, 2020 11:22 AM
To: Caputo, Michael (HHS/ASPA) - [REDACTED]; McKeogh, Katherine (OS/ASPA) - [REDACTED]; Oakley, Caitlin B. (OS/ASPA) - [REDACTED]; Hensley, Gordon (HHS/ASPA) - [REDACTED]; Murphy, Ryan (OS/ASPA) - [REDACTED]; Traverse, Brad (HHS/ASPA) - [REDACTED]; Stephen Hahn - [REDACTED]; Wagner, John (FDA/OC) - [REDACTED]; Brennan, Patrick (OS/ASPA) - [REDACTED]; Pratt, Michael (OS/ASPA) - [REDACTED]
Subject: FW: NYC 25% antibodies...raises issue of maybe herd is not 70% but this virus stops/slows at 20-25%

Michael, I am arguing based on this 25% antibody in NYC, not the entire state of NY, that if this is so, that it may be, it just may be, that the 62-70% herd threshold we typically want in a closed population for the pathogen to be boxed in and shut down, that it may be that this virus needs just 20-25% antibody to be slowed or even stopped...we need to consider this possibility given the dramatic drop in infection in NYC and deaths when it drove the nightmare in April-June...NYC accounts for 40% of deaths in the US...as well it may be that there will be an upsurge but all the ingredients of a spike in NYC is there yet it has not happened and no way a city that is in dissaray public health wise can tamp this down in a few weeks...no way...so something has happened there...and this 25% antibody level if it can be replicated in other samples, then it may be that the herd number is low...and it may be that it will be best if we open up and flood the zone and let the kids and young folk get infected as we acutely lock down the elderly and at risk folk...but use the strong and well in the society to get infected and get to that 25%...maybe as we wait for a vaccine and therapeutics, we may be to get 25% antibodies ourselves by natural immunity....natural exposure....

This cannot be discounted...we have to think out of the box...

<https://www.nydailynews.com/coronavirus/ny-coronavirus-cuomo-20200427-qs3wltz5vgdjoz2rcif57abti-story.html>

*Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request,
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Individual variation in susceptibility or exposure to SARS-CoV-2 lowers the herd immunity threshold

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Abstract: As severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spreads, the susceptible subpopulation is depleted causing the incidence of new cases to decline. Variation in individual susceptibility or exposure to infection exacerbates this effect. Individuals that are more susceptible or more exposed tend to be infected earlier, depleting the susceptible subpopulation of those who are at higher risk of infection. This selective depletion of susceptibles intensifies the deceleration in incidence. Eventually, susceptible numbers become low enough to prevent epidemic growth or, in other words, the herd immunity threshold (HIT) is reached. Although estimates vary, simple calculations suggest that herd immunity to SARS-CoV-2 requires 60-70% of the population to be immune. By fitting epidemiological models that allow for heterogeneity to SARS-CoV-2 outbreaks across the globe, we show that variation in susceptibility or exposure to infection reduces these estimates. Accurate measurements of heterogeneity are therefore of paramount importance in controlling the COVID-19 pandemic.

One Sentence Summary: Models that curtail individual variation in susceptibility or exposure to infection overestimate epidemic sizes and herd immunity thresholds.

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) emerged in China in late 2019 and spread worldwide causing the ongoing pandemic of coronavirus disease (COVID-19). As of 06 May 2020, more than 3.5 million cases have been confirmed and almost 250,000 died (1). Scientists throughout the world have engaged with governments, health agencies, and with each other, to address this emergency. Mathematical models have been central to important decisions concerning contact tracing, quarantine, and social distancing, to mitigate or suppress the initial pandemic spread (2). Successful suppression, however, leaves populations at risk to resurgent waves due to insufficient acquisition of immunity. Models have thus also addressed longer term SARS-CoV-2 transmission scenarios and the requirements for continued adequate response (3). This is especially timely as countries begin to relax lockdown measures that have been in place over recent weeks with varying levels of success in tackling national outbreaks.

Here we demonstrate that individual variation in susceptibility or exposure (connectivity) accelerates the acquisition of immunity in populations due to selection by the force of infection. More susceptible and more connected individuals have a higher propensity to be infected and thus are likely to become immune earlier. Due to this *selective immunization*, heterogeneous populations require less infections to cross their herd immunity thresholds (HITs) than homogeneous (or not sufficiently heterogeneous) models would suggest. We integrate continuous distributions of susceptibility or connectivity in otherwise basic epidemic models for COVID-19 and show that as the coefficient of variation (CV) increases from 0 to 4, the herd immunity threshold declines from over 60% (4, 5) to less than 10%. Measures of individual variation are urgently needed to narrow the estimated ranges of HITs and plan accordingly.

SARS-CoV-2 transmission in heterogeneous populations

SARS-CoV-2 is transmitted primarily by respiratory droplets and modelled as a susceptible-exposed-infectious-recovered (SEIR) process.

Individual variation in susceptibility is integrated as a continuously distributed factor that multiplies the force of infection upon individuals as

$$\dot{S}(x) = -\lambda x S(x), \quad \dot{E}(x) = \lambda x S(x) - \delta E(x), \quad \dot{I}(x) = \delta E(x) - \gamma I(x), \quad (1)$$

where $S(x)$ is the number of individuals with susceptibility x , $E(x)$ and $I(x)$ are the numbers of individuals who originally had susceptibility x and became exposed and infectious, δ is the rate of progression from exposed to infectious, γ is the rate of recovery or death, and $\lambda = (\beta/N) \int [\rho E(x) + I(x)] dx$ is the average force of infection upon susceptible individuals in a population of size N . The basic reproduction number is

$$R_0 = \langle x \rangle (\beta/N) (\rho/\delta + 1/\gamma), \quad (2)$$

where ρ is a factor measuring the infectivity of individuals in compartment E in relation to those in I , and $\langle x \rangle$ is the mean susceptibility factor at epidemic onset. Prior to the epidemic, susceptibility is described by a probability density function $q(x)$ with mean 1 and $CV = \langle (x-1)^2 \rangle$ explored as a parameter. The effective reproduction number (R_{eff} , also denoted by R_e or R_t by other authors) is a time-dependent quantity obtained by multiplying R_0 by the susceptibility of the population over time.

Figure 1 depicts model trajectories fitted to suppressed epidemics in Italy and Austria, assuming coefficients of variation 1 and 3. The difference in the size of second waves between the two levels of variation is substantial. In the case of Italy, where suppression was less successful, the

pandemic appears mostly resolved when $CV = 3$. However, a large second wave (or a series of smaller waves, depending on possible containment strategies) remains in the horizon when $CV = 1$. Countries where suppression of the initial outbreak was more successful, such as Austria, have acquired less immunity and therefore the potential for future transmission in the respective populations remains naturally larger. However, also in these situations, expectations for the potential of subsequent waves is much reduced by variation in susceptibility to infection.

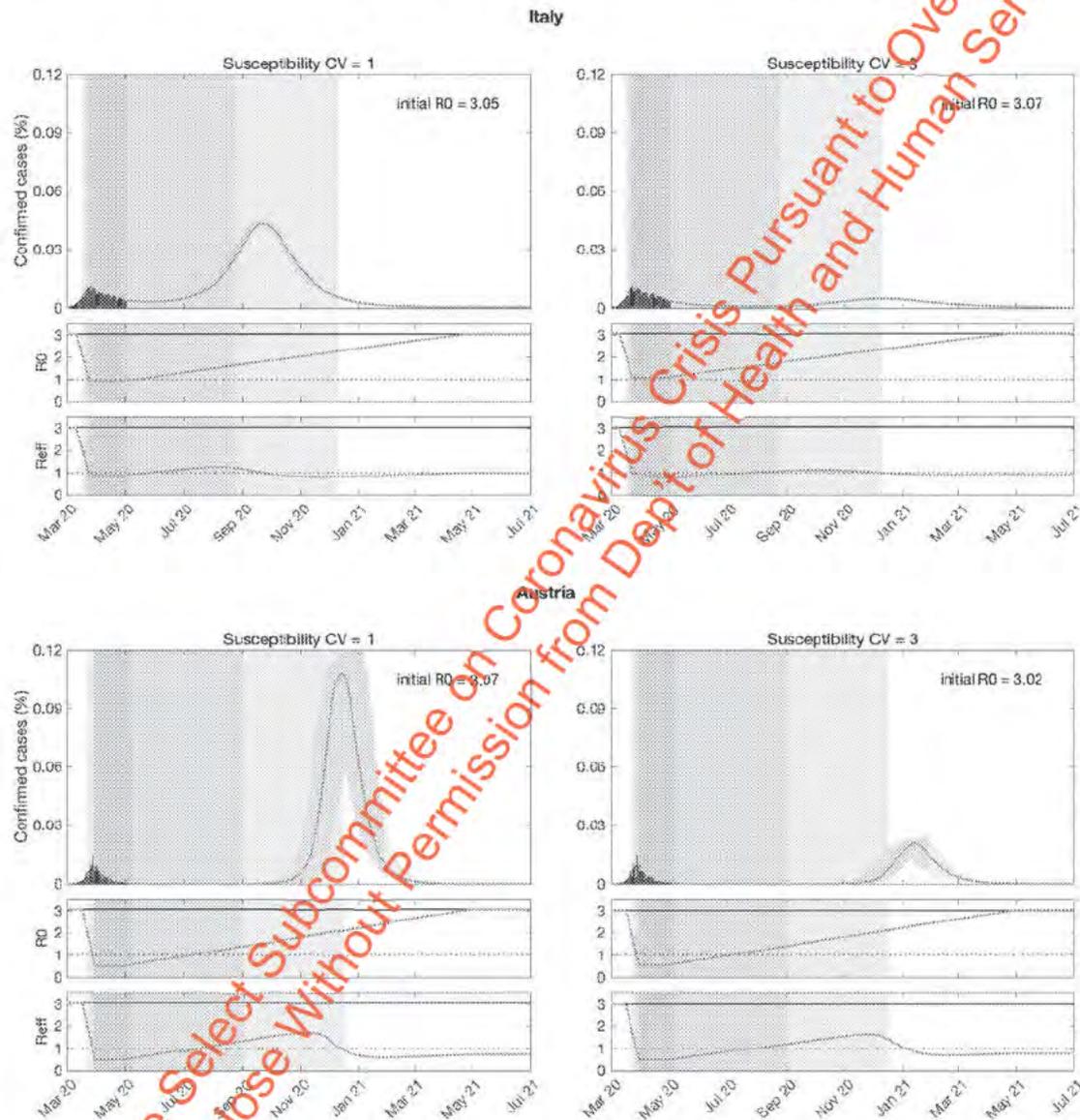


Figure 1: The effect of variation in susceptibility to infection on the size of epidemics. Suppressed wave and subsequent dynamics in Italy and Austria. Blue bars are confirmed new cases and overlaid red bars represent deaths. Basic (R_0) and effective (R_{eff}) reproduction numbers are displayed on bottom panels. Blue shades represent social distancing (intensity reflected in R_0 trends and shade density). Susceptibility factors were implemented as gamma distributions. Consensus parameter values (Materials and Methods): $\delta = 1/4$ per day; $\gamma = 1/4$ per day; and $\rho = 0.5$. Fraction of infected individuals identified as positive (reporting fraction): $p = 0.1$. R_0 and social distancing parameters were estimated by Bayesian inference as described in Supplementary Materials. Curves represent median model predictions from 10^4 posterior samples. Orange shades represent 95% credible intervals.

In a directly transmitted infectious disease, such as COVID-19, variation in exposure to infection is primarily governed by patterns of connectivity among individuals. We incorporate this in the system (Equation 1) by adding variation in infectivity and assuming a positive correlation between susceptibility and infectivity. Formally this corresponds to modifying the force of infection as $\lambda = (\beta/N)(\int x[\rho E(x) + I(x)] dx / \int xq(x) dx)$ and the basic reproduction number as

$$R_0 = (\langle x^2 \rangle / \langle x \rangle^2) (\beta/N) (\rho/\delta + 1/\gamma), \quad (3)$$

where $\langle x \rangle$ and $\langle x^2 \rangle$ are the first and second moments of the distribution $q(x)$ prior to the epidemic. Applying this model to the epidemics in Italy and Austria (Figure 2) leads to similar results to those obtained when variation was in susceptibility to infection.

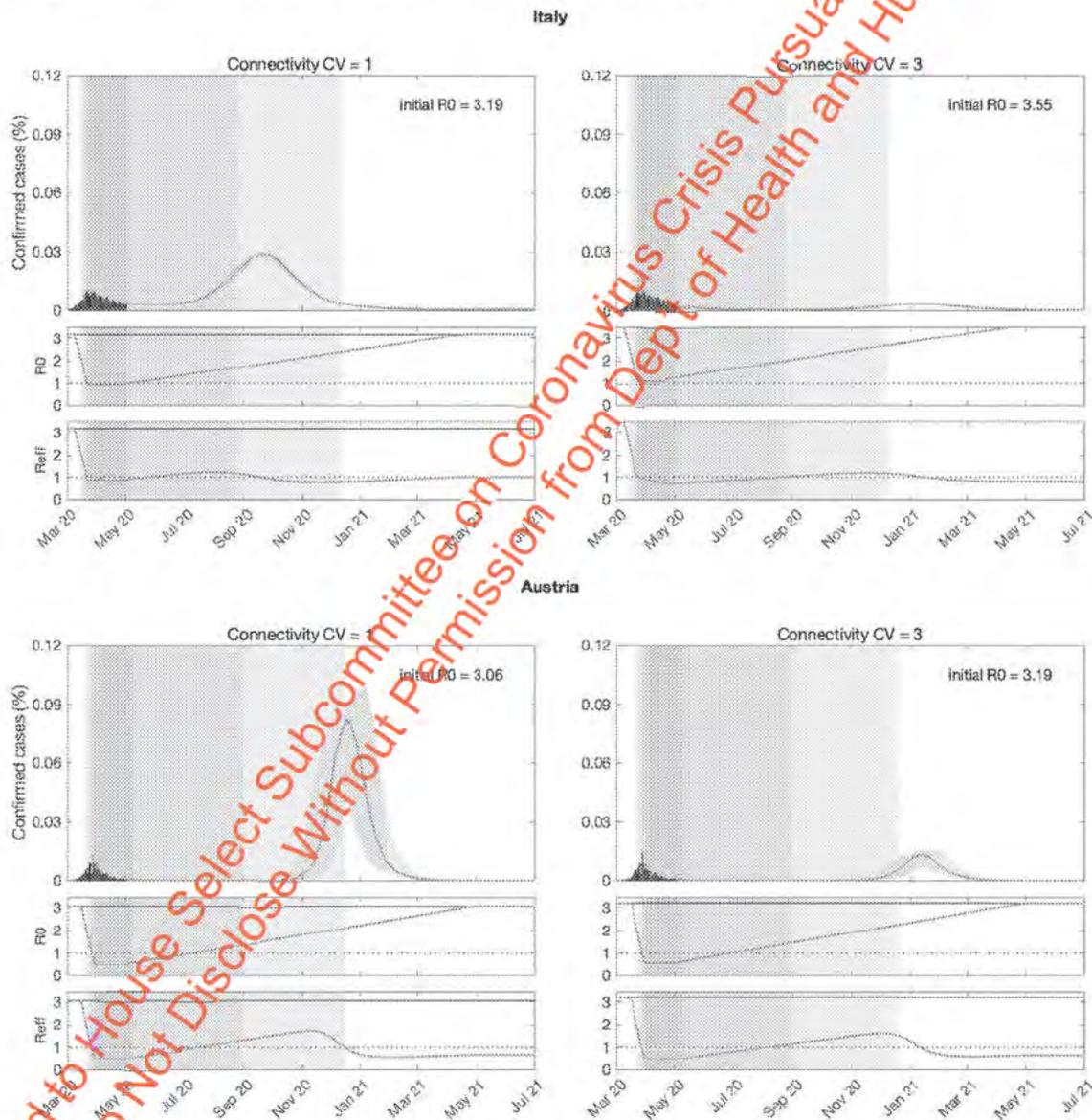


Figure 2: The effect of variation in exposure to infection on the size of epidemics. Suppressed wave and subsequent dynamics in Italy and Austria. Blue bars are confirmed new cases and overlaid red bars represent deaths.

Basic (R_0) and effective (R_{eff}) reproduction numbers are displayed on bottom panels. Blue shades represent social distancing (intensity reflected in R_0 trends and shade density). Connectivity factors were implemented as gamma distributions. Consensus parameter values (Materials and Methods): $\delta = 1/4$ per day; $\gamma = 1/4$ per day; and $p = 0.5$. Fraction of infected individuals identified as positive (reporting fraction): $p = 0.1$. R_0 and social distancing parameters were estimated by Bayesian inference as described in Supplementary Materials. Curves represent median model predictions from 10^4 posterior samples. Orange shades represent 95% credible intervals.

The herd immunity threshold

Individual variation in risk of acquiring infection is under selection by the force of infection, whether individual differences are due to biological susceptibility, physical exposure, or a combination of the two traits. Selection results in the removal of the most at-risk individuals from the susceptible pool as they become infected and eventually recover (some die). This selective acquisition of infection and immunity results simultaneously in decelerated epidemic growth and accelerated induction of immunity in the population. The herd immunity threshold (HIT) defines the percentage of the population that needs to be immune to reverse epidemic growth and prevent future waves. Figure 3 shows the expected downward trends in the HIT for SARS-CoV-2 as the coefficients of variation of the gamma distributed susceptibility or exposure are increased between 0 and 4 (to assess robustness to changing the type of distribution see Figure S22 for equivalent plots with lognormal distributions). While herd immunity is expected to require 60-70% of a homogeneous population to be immune given an R_0 between 2.5 and 3, these percentages drop to the range 10-20% for CVs between 2 and 4. Therefore, a critically important question is: how variable are humans in their susceptibility and exposure to SARS-CoV-2? Hitherto, there is no definite answer to this question.

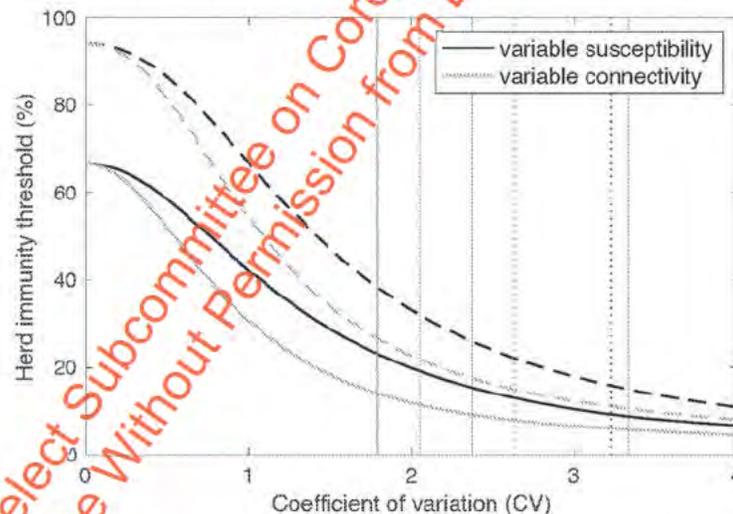


Figure 3: Herd immunity threshold with variation in susceptibility and exposure to infection. Curves generated with the model (Equation 1) with gamma distributed susceptibility (black) or connectivity (gray) assuming $R_0 = 3$: (solid) herd immunity threshold; (dashed) final size of uncontrolled epidemic. Vertical lines indicate coefficients of individual variation for several infectious diseases according to literature: (solid green) susceptibility or exposure to malaria [Amazon 1.79 (6), Africa 2.05 (7)]; (solid blue) susceptibility or exposure to tuberculosis [Portugal 2.37, Brazil 3.33 (8)]; (dotted red) infectiousness for SARS-CoV-1 [Singapore 2.62, Beijing 2.64 (9)]; (dotted black) infectiousness for SARS-CoV-2 [3.22 (10)].

As the pandemic unfolds evidence will accumulate in support of low or high coefficients of variation, but soon it will be too late for this to impact public health strategies unless we act

pragmatically. We searched the literature for estimates of individual variation in the propensity to acquire or transmit several infectious diseases including COVID-19 and overlaid these estimates as vertical lines in Figure 3. CV estimates are mostly comprised between 2 and 4, a range where naturally acquired immunity to SARS-CoV-2 may place populations over the HIT once as few as 10-20% of its individuals are immune. This depends, however, on which specific transmission traits are variable and how much the trait variants are distributed.

Variation in infectiousness was critical to attribute the scarce and explosive outbreaks to superspreaders when the SARS-CoV-1 emerged in 2002 (9), but infectiousness does not respond to selection as susceptibility or exposure do. Models with individual variation in infectiousness perform equivalently to homogeneous versions when implemented deterministically (Figure S21). They diverge when stochasticity is added in the sense that disease extinction becomes more likely and outbreaks become rarer and more explosive (9-11), but this an entirely different phenomenon to that presented in this paper.

Among the estimates of individual variation plotted in Figure 3, those corresponding to SARS-CoV viruses, with coefficients of variation in the range 2.6-3.2, have been described as variation in individual infectiousness (9, 10), but the way authors describe superspreaders is suggestive that higher infectiousness may stem from higher connectivity with other individuals who may be susceptible. This would support the scenarios displayed in Figure 2 with $CV = 3$ for connectivity, although little is known about how this might have been modified by social distancing.

Discussion

The concept of *herd immunity* is most commonly used in the design of vaccination programs (12, 13). Defining the percentage of the population that must be immune to cause infection incidences to decline, herd immunity thresholds constitute convenient targets for vaccination coverage. In idealized scenarios of vaccines delivered at random and individuals mixing at random, herd immunity thresholds are given by a simple formula $(1 - 1/R_0)$ which, in the case of SARS-CoV-2, suggests that 60-70% of the population would need be immunized to halt spread considering estimates of R_0 between 2.5 and 3. A crucial caveat in exporting these calculations to immunization by natural infection is that natural infection does not occur at random. Individuals who are more susceptible or more exposed are more prone to be infected and become immune, which lowers the threshold (14). In our model, the herd immunity threshold declines sharply when coefficients of variation increase from 0 to 2 and remains below 20% for more variable populations. The amplitude of the decline depends on what property is heterogeneous and how it is distributed but the downwards trend is robust (Figures 3 and S22).

Heterogeneity in the transmission of respiratory infections has traditionally focused on variation in exposure summarized into age-structured contact matrices. Besides overlooking differences in susceptibility given exposure, the aggregation of individuals into age groups curtails coefficients of variation with important downstream implications. We calculated CV for the landmark POLYMOID matrices (15, 16) and obtained values between 0.3 and 0.5. Recent studies of COVID-19 integrated contact matrices with age-specific susceptibility to infection (structured in three levels) (17) or with social activity (three levels also) (18) which, again, resulted in coefficients of variation less than 1. We show that models with coefficients of variation of this magnitude would appear to differ only moderately from homogeneous approximations when compared with those that incorporate CVs between 2 and 3, as estimated for a variety of

infectious diseases (Figure 3) and supported by detailed mobility data in the city of Portland, Oregon, USA (19) (we obtained an estimate rounding $CV = 2$ based on data extracted with WebPlotDigitizer). It is therefore crucial that variation in susceptibility and exposure to infection is included in epidemic models at the finest resolution of individuals. This has required agent-based models which are computationally intensive and not amenable to mathematical treatment (19). Here, we introduce mathematical formalisms that enable the entire individual variation to be captured while maintaining the analytical tractability of the simplest homogeneous models. This is especially relevant when dealing with major crises such as the current pandemic where optimal strategies rely on a capacity to quickly rationalize the best compromise between protecting health and safeguarding the economy. The larger the individual variation, the more optimistic the public health prognostics and the milder the required health policies.

Interventions themselves have potential to manipulate individual variation. Current social distancing measures may be argued to either increase or decrease variation in exposure, depending on the roles of different functional strata in societies and the compliance of individuals who are normally more highly connected in relation to the average. Datasets that describe connectivity patterns before and during movement restrictions, such as those in (17) could, in principle, inform relevant changes in distributions of individual connectivity but surveys must be applied on representative samples of the population and the information cannot be collapsed into age-group averages. A deeper understanding of the putative patterns is crucial not only to develop more accurate predictive models, but also to refine control strategies and to interpret data resulting from prevalence studies and serological surveys.

An analysis of the outbreak on board the Diamond Princess cruise ship reported a cumulative infected percentage of 17% (20). Seroprevalences estimated from various settings are currently widespread, but reportedly between less than 1 and just over 20%, including estimates from Kobe, Japan (3.3%) (21) and Guilan province, Iran (22%) (22). While seropositivity estimates are limited by epidemiological context and current estimates are undoubtedly affected by testing uncertainties, our results suggest that some estimated values may be closer to reaching herd immunity thresholds than otherwise predicted, if populations were sufficiently heterogeneous. Worth noting, however, that these estimates may have been offset by the social distancing measures.

Given current uncertainties, a high level of pragmatism may be required in incorporating results from serological surveys into policy decisions. We have assumed that infection elicits persistent adaptive immunity. This assumption is justified by encouraging reports on animal models and humans recovered from SARS-CoV-2 infection, even though volatile immunity has not been ruled out yet. Our results are robust as long as recovered individuals remain immune for several months. Any test that allows for retrospectively detecting past infections is therefore a convenient tool for monitoring the prevalence and distribution of individuals who may have acquired immunity. It would be imperative to conduct repeated serological studies in representative samples of the population (23) especially as control measures are relaxed, not necessarily to imply that antibodies themselves are neutralizing but to identify past infection and potential for immune protection. Given a percent positivity in an initial survey, the curve traced by subsequent measurements could indicate if and how rapidly a population is moving towards the herd immunity threshold, and simultaneously advise which control measures should be enforced.

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Author contributions: MGMC conceived the study and wrote the first draft, RA, RMC and JGK performed the analyses, all authors wrote the paper.

Competing interests: Authors declare no competing interests.

Data and materials availability: All data is available in the main text or the supplementary materials.

Message

From: Alexander, Paul (HHS/ASPA) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 7/27/2020 1:57:17 AM
To: Redfield, Robert R. (CDC/OD) [REDACTED]
Subject: my thoughts on University student spread of COVID

Good night Dr. Redfield, I think it is the university student/college student in North America that seeded lots of the virus across the nations...why? Because just before easter break middle to late March (??), we locked schools down and after easter, we told parents that kids cant come back to school...we will debate that for years and I say it was wrong for soon after we figured out it were 75- 80 year olds with underlying medical conditions who were the prime targets of COVID virus. Folk who would have died absent of COVID...people who are very ill ordinarily...to me now as I reflect, it may be the university students, a few million of them across the nation, that we had to lock down, even quarantine, and simultaneously lock down the elderly, enhance nursing homes safety, ramp up the hospital capacity, with strong public service messages around hand washing, social distancing etc., and go on with life...we never ever lock down a well 'healthy' society, no instance of this ever...we essentially took off the battlefield the most potent weapon we had...younger healthy people, children, teens, young people who we needed to fastly infect themselves, spread it around, develop immunity, and help stop the spread...I am speculating...again, as granny was locked down and kept so until we had our herd via natural exposure or vaccine...whichever came first. But that is history now and this mail is my thought in how did this spread so fast...I think I have figured it out... I know you are the expert but wanted to share my thought...I think when we locked down schools for kids, we made a grave mistake locking down Colleges and Universities...no, maybe university campuses should have been kept open, 'not' closed and arrange a funding package to pay for the rooms of all 'on campus' students to stay there from April to Dec (through the summer this year) and those who lived at home and left campus daily after class, then we should have gotten them rooms on campus and kept all these students together and NOT let them go home. All university students should have been quarantined or asked to stay on campus from end March to now and we pay for that... As we see how much and quickly the young folk can spike this by their behavioural actions once we relaxed things, I think it was these students who took the virus home to mommy and daddy who then infected granny at home...directly or by going into aged homes to visit their aged parents/granny...the university aged grand-kids already came home and brought the pathogen home in large numbers. I am speculating today that if University students were constrained in their dorms on campus all along and all students housed there 'until' that this pathogen was controlled, then there is a strong chance it would have been under more control now...not blaming, I am just thinking aloud of what was done and where the breach was likely. Maybe I am wrong. What could have been done differently? The same way young folk show us now how fast they can spread the virus, they likely did then, we just did not know or did not think they were a key dissemination vessel and what happened??? By closing Universities, they all went home...in early April that was the maybe 'worst' thing that should have been done the more I think of it now...in a twisted way, we need them all to go back to university, fast, and stay there come Nov/Dec...do not come home for this xmas 2020....stay there until and especially as we have influenza season coming...getting university students back onto campus (all of them with rooms) maybe the one tool to help mitigate a potentially horrendous coming triple season of COVID, influenza, and common cold.

It may be way off to left field but I am just thinking out loud.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC
[REDACTED]

Tel: [REDACTED]

Email: [REDACTED]

*Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request,
Do Not Disclose Without Permission from Dep't of Health and Human Services*

Message

From: Alexander, Paul (HHS/ASPA) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 7/29/2020 4:08:53 PM
To: Witkofsky, Nina (CDC/OD/OCS) [REDACTED]; Caputo, Michael (HHS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]; Oakley, Caitlin B. (OS/ASPA) [REDACTED]; McKeogh, Katherine (OS/ASPA) [REDACTED]
Subject: FW: CDC CLEARANCE REQUEST: Lancet 3rd Party Release- MIS 112781
Attachments: Lancet 3Party PR Global epidemiology of COVID-19.docx

Hold this please...there is something not right here...and I think can be used to damage the administration...

Redfield last night is saying that the administration closed the Europe border late...that's the implication...that was not good...why did he do that??? He said last night that the US was slow to recognize the European threat in early March "the introduction from Europe happened before we realized what was happening...by the time we realized Europe threat and shut down travel to Europe there was probably already 2 or 3 weeks of 60,000 people per day coming back from Europe"...

what I don't get is this was his job and CDC's job...who is the 'we' he refers to? The administration depended on him/CDC...

And yes, we always knew that cases were coming in for that 5 weeks between China close and Europe but it is the CDC that failed disastrously for it is their sole mission to do 2 things 1) proactively monitor all pathogen globally and react to prevent it coming to US or contain if it got to the US 2) devise tests and contact tracing etc. for such ...in both they failed...it is clear and the administration has been gentle on CDC but CDC has failed. A catastrophic failure with testing that not even the great Giroir can remedy as hard as he tried....So why would Redfield bring that up in his talk??? If CDC were testing when it should have been or had a viable test, those 5 weeks where the US flew blind would have not happened and we would not be here in this mess...the administration has been served terribly by CDC in this pandemic.

Now this Lancet that is saying cases came from Europe: this is bad for now reporters will sit in the pressers and drill the administration and can now say that you closed borders too late to Europe...

If I were the administration I would remind all that it were Dr. Fauci as the lead who kept saying early Feb and late Feb 2020 that this was no issue and the US had nothing to worry about. He said it three times in different media appearances. While he was also saying no masks needed. I have to say, I know the President was taking tone and guidance by what Fauci was saying and the WHO which as we know was in bed with China lying about human to human transmission when they knew it was being spread effectively that way e.g. Feb 14 and Feb 21 the WHO said no human to human...so between Fauci and WHO and China, the President was badly guided and still he made the right call in shutting down China...any President in this situation, as it happened today, would be compromised in the response or flatfooted.

If the administration is now accused of closing too late with Europe which is what I know now since Redfield gave the media etc. an 'in' and now this Lancet article, then the administration must center Fauci et al. and maybe censure them for they really are the ones giving guidance, they failed...they all failed this administration and today, we are playing catchup.

This Lancet article is bad news. The CDC has the expertise and is mandated to do global surveillance of pathogens and are situation in other nations to test and monitor globally...to ensure nothing bad hits the US shores...and they failed in this where. And failed to properly advise on border closures with Fauci...these people failed the nation. Regardless of if they are helping now to fix it, this is due to their failures. I applaud the administration for holding it down this way so far for the administration has been terribly served. Good public servants and public health people working to death to fix a

disaster from the beginning. The administration has been so badly served. I am very saddened but right now we have lives to save...and I have a small role but thank you for this chance for this is a bad situation due to serious failings.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

[Redacted]

Email: [Redacted]

From: Haynes, Benjamin (CDC/OD/OADC) [Redacted]
Sent: Wednesday, July 29, 2020 11:20 AM
To: OS - Interviews [Redacted]
Cc: Robinson, Michael J (HHS/ASPA) [Redacted]; CDC OADC ASPA Clearance [Redacted]
Subject: CDC CLEARANCE REQUEST: Lancet 3rd Party Release- MIS 112781

Mike please see below. Sorry for the short fuse but Lancet basically gave us 20 minutes to greenlight the quotes or the release will go without. Nina has ok'd

Benjamin Haynes
JIC Media
[Redacted]

ASPA Clearance – CDC Quote in a 3rd Party Press Release Template

Agency/Office: CDC/DDPH/SIS/Center for Global Health

Subject (or headline): The Lancet Infectious Diseases: 1 in 4 of first COVID-19 cases around the world linked to travel to Italy, suggests surveillance study

Materials [Example below]

- Press release

Quote for attribution from:

- Phillip Ricks (CDC/DDPHSIS/DGHP)
- Fatimah S. Daewood (CDC/DDID/NCIRD/ID)

Deadline for comments: [ASPA use only]

Planned release date: July 29, 2020

Driving event (Publication Date, Testimony, etc): Publication Date July 29, 2020

Quotes for Review:

“Our findings suggest that travel from just a few countries with substantial SARS-CoV-2 transmission may have seeded additional outbreaks around the world before WHO declared COVID-19 a pandemic on March 11, 2020”, says Dr Fatimah Dawood from the Centers for Disease Control and Prevention (CDC), USA, who led the research.

“Four large clusters in our analysis, and large outbreaks reported elsewhere, have been linked with transmission in faith-based settings, highlighting the need to partner with faith-based organisations when designing and implementing community mitigation efforts”, says co-author Dr Philip Ricks from the US CDC. “Six healthcare-associated clusters were also identified, underscoring the need for strict infection prevention and control practices and monitoring health-care workers for signs of illness.” [1]

“The epidemiology of COVID-19 in low-income countries and in Africa could differ, as reported in previous influenza pandemics, and accurate data from these settings will be needed to assess the full global effect of the COVID-19 pandemic”, says Dawood. [1]

Thank you,

Jasmine Reed

Centers For Disease Control and Prevention

Public Affairs Specialist

News Media Branch

Infectious Disease Media Team



Produce House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request, Do Not Disclose Without Permission from Dep't of Health and Human Services

****Embargo: 23.30 [UK time] Wednesday 29th July 2020****

Peer-reviewed / Observational study / People

The Lancet Infectious Diseases: 1 in 4 of first COVID-19 cases around the world linked to travel to Italy, suggests surveillance study

- ***Of the first confirmed COVID-19 cases in each affected country outside mainland China, almost two thirds had travel links to Italy, China, or Iran.***
- ***Many small clusters of household transmission reported among early cases, but clusters in occupational and community settings tended to be larger—supporting the role of physical distancing to slow the spread of COVID-19.***

Web-based surveillance of the global spread of SARS-CoV-2 (the virus that causes COVID-19) during the first 11 weeks of the outbreak (Dec 31, 2019, to March 10, 2020), reveals that three-quarters (75/99) of affected countries outside mainland China reported their first COVID-19 case in people who had recently travelled to an affected country—with almost two-thirds of these first cases linked to travel to Italy (27%), China (22%), or Iran (11%), according to new research published in *The Lancet Infectious Diseases* journal.

“Our findings suggest that travel from just a few countries with substantial SARS-CoV-2 transmission may have seeded additional outbreaks around the world before WHO declared COVID-19 a pandemic on March 11, 2020”, says Dr Fatimah Dawood from the Centers for Disease Control and Prevention (CDC), USA, who led the research.

The study is the first of its kind to use publicly available global case data to describe travel exposure among early COVID-19 cases in different countries. However, the authors caution that given almost all cases in the analysis were reported in middle-income and high-income countries from Asia and Europe (due to late detection in other regions), they were unable to draw a complete picture of COVID-19’s early global epidemiology.

In this study, researchers examined publicly available online reports from national ministries of health and other government agency websites, social media feeds, and press releases on a daily basis to identify newly confirmed cases of COVID-19 reported between Dec 31, 2019, and March 10, 2020 (ie, during the pre-pandemic period, corresponding to weeks 1-11 of the outbreak). Countries with at least one case were classified as affected. Early cases were defined as the first 100 cases reported in each country, and later cases as those after the first 100 cases. The researchers analysed travel history for the first case reported in each country outside mainland China, case characteristics (eg, age, sex, exposure), and cluster frequencies and sizes.

During the first 11 weeks of the COVID-19 outbreak, 32,459 COVID-19 cases were identified from 99 countries and locations outside mainland China (figure 1).

The analysis found that travel history of the first reported case in each affected country varied by world region (figure 3 and infographic). Travel to Italy was linked with half (3/6 cases) of the first-reported cases in Africa, and over a third (36%, 6/??) in Europe and the Americas (38%, 5/??). Travel to mainland China accounted for 83% (10/??) of the first-reported cases in the Western Pacific and over half (57%, 4/??) in Southeast Asia. Seven (44%) first-reported cases in the Eastern Mediterranean region had a history of travel to Iran.

Among 1,200 cases from 68 countries with age or sex information available [2], 874 (73%) were early cases, with an average age of 51 years. Just 3% of cases (25/762 with age information available) occurred in children younger than 18 years. In total, 2% (21/1,200) of early cases occurred in health-care workers.

During the pre-pandemic period, 101 clusters involving 386 cases were identified in 29 countries (table 3). Household transmission was reported in three-quarters (76/101) of clusters, with an average of 2.6 cases in each cluster. In contrast, the 11 clusters related to community gatherings (ie, tour groups, faith-based groups, and dinner parties; average 14.2 cases per cluster), and the 14 clusters reported in non-health-care occupational settings (average 4.3 cases per cluster) tended to be larger—supporting a role for physical distancing in slowing the spread of COVID-19, researchers say.

“Four large clusters in our analysis, and large outbreaks reported elsewhere, have been linked with transmission in faith-based settings, highlighting the need to partner with faith-based organisations when designing and implementing community mitigation efforts”, says co-author Dr Philip Ricks from the US CDC. “Six healthcare-associated clusters were also identified, underscoring the need for strict infection prevention and control practices and monitoring health-care workers for signs of illness.” [1]

The analysis also highlights the relatively late detection of COVID-19 in Africa, with only 6 out of 46 (13%) countries studied in the region reporting cases by the time WHO declared the outbreak a pandemic on 11 March, 2020. This compares to a third (13/35) of countries in the Americas and the majority of countries in Europe (45/54, 83%), Eastern Mediterranean (16/23, 70%), and Southeast Asia (7/11, 64%).

“The epidemiology of COVID-19 in low-income countries and in Africa could differ, as reported in previous influenza pandemics, and accurate data from these settings will be needed to assess the full global effect of the COVID-19 pandemic”, says Dawood. [1]

The authors note some important limitations of their study, including that the analysis of case characteristics was limited to only 4% (1,200/32,459) of global confirmed cases that had sufficient information about a case’s age and sex; and publicly available data varied in completeness, which could have resulted in some case characteristics going undetected. They also note that the first confirmed case in each country might not have been the first true case of infection in some countries, since early case detection efforts varied substantially.

NOTES TO EDITORS

The study received no funding. It was conducted by researchers from Centers for Disease Control and Prevention (CDC), USA

The labels have been added to this press release as part of a project run by the Academy of Medical Sciences seeking to improve the communication of evidence. For more information, please see: [[HYPERLINK "http://www.sciencemediacentre.org/wp-content/uploads/2018/01/AMS-press-release-labelling-system-GUIDANCE.pdf"](http://www.sciencemediacentre.org/wp-content/uploads/2018/01/AMS-press-release-labelling-system-GUIDANCE.pdf)] if you have any questions or feedback, please contact The Lancet press office [[HYPERLINK "mailto:pressoffice@lancet.com"](mailto:pressoffice@lancet.com)]

[1] Quotes direct from authors and cannot be found in text of Article.

[2] The 68 countries and locations with cases with information on age and sex were Algeria, Andorra, Argentina, Australia, Austria, Azerbaijan, Bahrain, Bhutan, Brazil, Bulgaria, Cambodia, Cameroon, Canada, Chile, Croatia, Czech Republic, Denmark, Dominican Republic, Egypt, Estonia, Finland, France, Georgia, Germany, Greece, Hong Kong, Iceland, India, Indonesia, Iraq, Ireland, Israel, Italy, Japan, Kuwait, Lebanon, Lithuania, Macau, Malaysia, Mexico, Moldova, Morocco, Nepal, Netherlands, New Zealand, Oman, Peru, Philippines, Poland, Portugal, Romania, San Marino, Senegal, Serbia, Singapore,

South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Thailand, Togo, Tunisia, Ukraine, United Arab Emirates, and Vietnam.

The 31 countries and locations with cases for which no case had information about age or sex were Afghanistan, Armenia, Belarus, Belgium, Bosnia and Herzegovina, Colombia, Costa Rica, Ecuador, Hungary, Iran, Jordan, Latvia, Liechtenstein, Luxembourg, Maldives, Malta, Monaco, Nigeria, North Macedonia, Norway, Pakistan, Palestine, Panama, Paraguay, Qatar, Russia, Saudi Arabia, Slovakia, Slovenia, the UK, and the USA.

For interviews with authors Dr Fatimah Dawood and Dr Philip Ricks, CDC, Atlanta, USA please contact ??? E) [[HYPERLINK "mailto:???"](mailto:???)] T) ?????

For embargoed access to the Article, please see: [[HYPERLINK "http://www.thelancet-press.com/embargo/frailty.pdf"](http://www.thelancet-press.com/embargo/frailty.pdf)]

For embargoed access to the Appendix, please see: ??????

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LIFTS: <http://www.thelancet.com/journals/laninf/article/PIIS????????/abstract>

Produced to House Select Subcommittee on Coronavirus Crisis Pursuant to Oversight Request, Do Not Disclose Without Permission from Dept of Health and Human Services

Message

From: Alexander, Paul (HHS/ASPA) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BC4EDA8AD333439EB3D296AE0E0F9634-ALEXANDER,]
Sent: 7/31/2020 5:31:21 PM
To: Witkofsky, Nina (CDC/OD/OCS) [REDACTED]
CC: Brennan, Patrick (OS/ASPA) [REDACTED]
Subject: RE: Paul's op-ed on mar

Got it, I was glad Patrick pulled that in as a counter story but we are trying to give good news here.

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy
Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC
Tel: [REDACTED] (Office)
Tel: [REDACTED] (Cellular)
Email: [REDACTED]

From: Witkofsky, Nina (CDC/OD/OCS) [REDACTED]
Sent: Friday, July 31, 2020 1:23 PM
To: Alexander, Paul (HHS/ASPA) <[REDACTED]>
Cc: Brennan, Patrick (OS/ASPA) <[REDACTED]>
Subject: RE: Paul's op-ed on mar

We can but we say YMCAs which is plural inferring there were more. Plus we can't identify the Georgia camp as a YMCA because that is not public knowledge.

From: Alexander, Paul (HHS/ASPA) <[REDACTED]>
Sent: Friday, July 31, 2020 1:01 PM
To: Witkofsky, Nina (CDC/OD/OCS) <[REDACTED]>
Subject: RE: Paul's op-ed on mar

I don't know of others...but why cant we use that one? Its great!

The piece is less about numbers but to tell a good story...

Dr. Paul E. Alexander, PhD
Senior Advisor to the Assistant Secretary
For COVID-19 Pandemic Policy

Office of the Assistant Secretary of Public Affairs (ASPA)
US Department of Health and Human Services (HHS)
Washington, DC

Tel: [REDACTED] (Office)
Tel: [REDACTED] (Cellular)

Email: [REDACTED]

From: Witkofsky, Nina (CDC/OD/OCS) [REDACTED]
Sent: Friday, July 31, 2020 12:22 PM
To: Brennan, Patrick (OS/ASPA) <[REDACTED]>; Hubbard, Madeleine (OS/ASPA) [REDACTED];
[REDACTED] Oakley, Caitlin B. (OS/ASPA) [REDACTED]; Alexander, Paul (HHS/ASPA) [REDACTED];
[REDACTED] Foster, Timothy (OS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED];
[REDACTED]
Cc: Caputo, Michael (HHS/ASPA) [REDACTED]
Subject: RE: Paul's op-ed on mar

I think we need to qualify that the one positive YMCA report was from New York, unless we have other examples of positive results from other YMCAs outside of the NPR article.

From: Brennan, Patrick (OS/ASPA) [REDACTED]
Sent: Friday, July 31, 2020 11:56 AM
To: Hubbard, Madeleine (OS/ASPA) [REDACTED]; Witkofsky, Nina (CDC/OD/OCS) [REDACTED];
Oakley, Caitlin B. (OS/ASPA) [REDACTED]; Alexander, Paul (HHS/ASPA) [REDACTED];
Foster, Timothy (OS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]
Cc: Caputo, Michael (HHS/ASPA) [REDACTED]
Subject: RE: Paul's op-ed on mar

A few final edits/questions.

From: Hubbard, Madeleine (OS/ASPA) [REDACTED]
Sent: Friday, July 31, 2020 11:40 AM
To: Witkofsky, Nina (CDC/OD/OCS) [REDACTED]; Brennan, Patrick (OS/ASPA) [REDACTED]; Oakley,
Caitlin B. (OS/ASPA) [REDACTED]; Alexander, Paul (HHS/ASPA) [REDACTED]; Foster,
Timothy (OS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]
Cc: Caputo, Michael (HHS/ASPA) [REDACTED]
Subject: RE: Paul's op-ed on mar

Please see final op ed. I am with Paul right now. We walked through and he gave the okay. Thank you!

From: Witkofsky, Nina (CDC/OD/OCS) [REDACTED]
Sent: Friday, July 31, 2020 10:42 AM
To: Brennan, Patrick (OS/ASPA) [REDACTED]; Oakley, Caitlin B. (OS/ASPA) [REDACTED];
Alexander, Paul (HHS/ASPA) [REDACTED]; Hubbard, Madeleine (OS/ASPA) [REDACTED];
[REDACTED] Foster, Timothy (OS/ASPA) [REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED];
[REDACTED]
Cc: Caputo, Michael (HHS/ASPA) [REDACTED]
Subject: RE: paul's op-ed on mmwr

Patrick, is this the same op-ed that you and I discussed?

Thanks
Nina

From: Brennan, Patrick (OS/ASPA) [REDACTED]
Sent: Friday, July 31, 2020 10:26 AM
To: Oakley, Caitlin B. (OS/ASPA) [REDACTED]; Alexander, Paul (HHS/ASPA) [REDACTED];
Hubbard, Madeleine (OS/ASPA) [REDACTED]; Foster, Timothy (OS/ASPA) [REDACTED];
[REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED]
Cc: Caputo, Michael (HHS/ASPA) [REDACTED]; Witkofsky, Nina (CDC/OD/OCS) [REDACTED]
Subject: RE: paul's op-ed on mmwr

Paul is consolidating edits now I think. I sent him mine and Laura's.

From: Oakley, Caitlin B. (OS/ASPA) [REDACTED]
Sent: Friday, July 31, 2020 10:26 AM
To: Alexander, Paul (HHS/ASPA) [REDACTED]; Hubbard, Madeleine (OS/ASPA) [REDACTED];
[REDACTED] Brennan, Patrick (OS/ASPA) [REDACTED]; Foster, Timothy (OS/ASPA) [REDACTED];
[REDACTED]; Murphy, Ryan (OS/ASPA) [REDACTED] >
Cc: Caputo, Michael (HHS/ASPA) [REDACTED]; Witkofsky, Nina (CDC/OD/OCS) [REDACTED]
Subject: paul's op-ed on mmwr
Importance: High

Where are we on that?

Once ready, Madeleine—can you please clear with OGC quickly? Goal is to get it out around 11:30 ish, aka after the hearing and before the mmwr.

Plan is to post on HHS blogs and then send via vocus to press list.

And distribute talkers to ASL/IEA

Caitlin B. Oakley
Deputy Assistant Secretary, National Spokesperson
Office of the Assistant Secretary for Public Affairs
U.S. Department of Health and Human Services
[REDACTED]

DRAFT PRE_DECISIONAL DELIBERATIVE